



The Great St. Pete Lab Mystery

Grade 10 math · Addition, Subtraction, Multiplication, Rounding, Division · Reading level grades 7-9

Detective: _____ **Date:** _____

An experimental therapy assistant drone has flown out of the pediatric rehabilitation lab! To safely bring it back to its charging cradle, we must identify which researcher accidentally loaded the incorrect navigation codes before it left the building.

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 misprogrammed medical drone is _____

Possible suspects

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

NAME	PRIMARY SENSOR	AUXILIARY TOOL	STAFF EYEWEAR	LANYARD RIBBON	REMOTE OVERRIDE
Dr Daniel Hale Williams	Thermal Sensor	Tablet Screen	Safety Goggles	Teal Lanyard	Siren Whistle
Dr Paul Ehrlich	Sonar Diagnostic	Drone Delivery	Safety Goggles	Teal Lanyard	Flashlight Beam
Dr Gerty Cori	Thermal Sensor	Drone Delivery	No Goggles	Red Lanyard	Neodymium Magnet
Dr Jane Cooke Wright	Acoustic Monitor	Maglev Glider	No Goggles	Yellow Lanyard	Flashlight Beam
Dr Charles Drew	Laser Scanner	Holographic Projector	No Goggles	Yellow Lanyard	Flashlight Beam
Dr Emil von Behring	Sonar Diagnostic	Voice Synthesizer	No Goggles	Red Lanyard	Flashlight Beam
Dr Jonas Salk	Acoustic Monitor	Drone Delivery	Safety Goggles	Teal Lanyard	Siren Whistle
Dr Helen Rodriguez Trias	Sonar Diagnostic	Holographic Projector	No Goggles	Red Lanyard	Siren Whistle
Dr Patricia Bath	Thermal Sensor	Maglev Glider	Safety Goggles	Yellow Lanyard	Neodymium Magnet
Dr Margaret Chung	Acoustic Monitor	Tablet Screen	Safety Goggles	Yellow Lanyard	Flashlight Beam
Dr Clara Barton	UV Disinfecter	Voice Synthesizer	Safety Goggles	Yellow Lanyard	Siren Whistle
Dr Virginia Avinger	UV Disinfecter	Voice Synthesizer	No Goggles	Teal Lanyard	Flashlight Beam
Dr Rebecca Lee Crumpler	UV Disinfecter	Tablet Screen	No Goggles	Red Lanyard	Siren Whistle
Dr Harriet Lane	UV Disinfecter	Holographic Projector	Safety Goggles	Teal Lanyard	Siren Whistle
Dr Antonia Novello	Acoustic Monitor	Holographic Projector	No Goggles	Yellow Lanyard	Neodymium Magnet
Dr Alice Hamilton	Thermal Sensor	Holographic Projector	Safety Goggles	Teal Lanyard	Neodymium Magnet
Dr Helen Taussig	Thermal Sensor	Holographic Projector	No Goggles	Red Lanyard	Flashlight Beam
Dr Alexander Fleming	Thermal Sensor	Voice Synthesizer	Safety Goggles	Teal Lanyard	Siren Whistle
Dr Elizabeth Blackwell	UV Disinfecter	Voice Synthesizer	Safety Goggles	Red Lanyard	Flashlight Beam
Dr Virginia Apgar	Acoustic Monitor	Holographic Projector	No Goggles	Teal Lanyard	Siren Whistle
Dr Johns Hopkins	UV Disinfecter	Maglev Glider	Safety Goggles	Teal Lanyard	Siren Whistle

CLUE 1 Addition

We gather the laboratory intake sheets. By calculating the sum of the newly received medicine vials, we can unlock the primary system diagnostics.

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

T						T									
7120	8118	3431	9601	2054	9601	7120	3431	3984	4368	2398	7770	9476	9601	2398	

3984	2398	6918	4368	3431	3707	6918	4368	7590	6495	3431	5457

$2625 + 4495 = \square \rightarrow \text{T}$	$1823 + 2545 = \square \rightarrow \text{L}$	$3951 + 3639 = \square \rightarrow \text{I}$
$6181 + 3420 = \square \rightarrow \text{S}$	$630 + 1424 = \square \rightarrow \text{Y}$	$4543 + 3575 = \square \rightarrow \text{H}$
$1897 + 1810 = \square \rightarrow \text{V}$	$2591 + 3904 = \square \rightarrow \text{D}$	$3247 + 6229 = \square \rightarrow \text{K}$
$3704 + 4066 = \square \rightarrow \text{C}$	$2235 + 4683 = \square \rightarrow \text{G}$	$2556 + 1428 = \square \rightarrow \text{M}$
$2378 + 1053 = \square \rightarrow \text{E}$	$1195 + 1203 = \square \rightarrow \text{A}$	$3053 + 2404 = \square \rightarrow \text{R}$

Scratch space:

CLUE 2

A batch of outdated sensor modules must be removed from our total inventory count. Finding the remaining balance gives us access to the secondary security log.

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

The diagram shows 18 numbered boxes arranged in two rows. The top row contains 18 boxes, and the bottom row contains 7 boxes. The boxes are numbered as follows:

- Top row (left to right): 8399, 4546, 4689, 6276, 2226, 6276, 4376, 4689, 7924, 8399, 1194, 5107, 4992, 4689, 6276, 6414, 1433, 4689, 8399, 1728.
- Bottom row (left to right): 3379, 5107, 3379, 3379, 8163, 4689, 6276.

Three boxes are highlighted with an orange 'T': the first box in the top row (8399), the tenth box in the top row (8399), and the nineteenth box in the top row (8399).

$12177 - 3778 = \square \rightarrow \boxed{\text{T}}$

$$9192 - 2778 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$5119 - 430 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$8791 - 4415 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$5451 - 344 = \boxed{} \rightarrow \boxed{0}$$

$$4650 - 104 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$7110 - 2118 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$4392 - 2664 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$7719 - 4340 = \boxed{} \rightarrow \boxed{\text{G}}$

$$7227 - 951 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$2286 - 60 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4630 - 3197 = \boxed{} \rightarrow \boxed{\text{F}}$$

$8076 - 152 = \boxed{} \rightarrow \boxed{\text{C}}$

$$2814 - 1620 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$11938 - 3775 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 3
Multiplication facts (1-12)

The vaccine storage trays are arranged in identical rows and columns. Multiplying the dimensions allows us to verify the tray count and access the camera feeds.

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

S												S				
21	12	48	45	7	12	77	7	12	40	36	21	7	108	88	22	

			S			
77	40	7	21	12	72	88

$3 \times 7 = \square \rightarrow$ S	$3 \times 4 = \square \rightarrow$ T	$9 \times 5 = \square \rightarrow$ P	$8 \times 11 = \square \rightarrow$ E
$10 \times 4 = \square \rightarrow$ H	$7 \times 1 = \square \rightarrow$ I	$2 \times 11 = \square \rightarrow$ N	
$12 \times 9 = \square \rightarrow$ R	$11 \times 7 = \square \rightarrow$ W	$4 \times 12 = \square \rightarrow$ O	
$4 \times 9 = \square \rightarrow$ A	$8 \times 9 = \square \rightarrow$ L		

Scratch space:

CLUE 4 Rounding

A digital clinical scale shows a precise weight value that we must round to the nearest whole pound to bypass the main security console lockout.

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

A			A			A			A				A						
500	430	2000	500	1300	1300	500	300	7000	500	130	1100	3700	500	2300	1300	2000	20	430	
230	2000	9000	900	300	1100														

Round 511 to the nearest hundred → **A**

Round 1,107 to the nearest hundred → **D**

Round 426 to the nearest ten → **T**

Round 228 to the nearest ten → **B**

Round 8,645 to the nearest thousand → **H**

Round 130 to the nearest ten → **R**

Round 314 to the nearest hundred → **N**

Round 6,919 to the nearest thousand → **Y**

Round 3,680 to the nearest hundred → **W**

Round 2,253 to the nearest hundred → **S**

Round 21 to the nearest ten → **F**

Round 1,289 to the nearest hundred → **L**

Round 1,585 to the nearest thousand → **E**

Round 902 to the nearest hundred → **I**

Scratch space:

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

We need to distribute a crate of medical adhesive patches equally among the various treatment wards. Solving this division problem reveals the final command sequence.

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:

$84 \div 7 = \boxed{}$

$45 \div 9 = \boxed{}$

$42 \div 6 = \boxed{}$

$10 \div 1 = \boxed{}$

$64 \div 8 = \boxed{}$

$90 \div 10 = \boxed{}$

$4 \div 1 = \boxed{}$

$8 \div 4 = \boxed{}$

$54 \div 9 = \boxed{}$

$132 \div 12 = \boxed{}$

$6 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain boots up the acoustic monitor, then deploys the drone delivery unit.
2. The villain activates its laser scanner, then deploys the drone delivery unit.
3. The villain activates its laser scanner, then updates its tablet screen.
4. The villain engages the sonar diagnostic, then glides away on its maglev track.
5. The villain runs a UV disinfecter cycle, then displays a holographic warning.
6. The villain activates its laser scanner, then speaks through the voice synthesizer.
7. The villain powers up its thermal sensor, then updates its tablet screen.
8. The villain runs a UV disinfecter cycle, then updates its tablet screen.
9. The villain runs a UV disinfecter cycle, then deploys the drone delivery unit.
10. The villain engages the sonar diagnostic, then deploys the drone delivery unit.
11. The villain activates its laser scanner, then glides away on its maglev track.
12. The villain powers up its thermal sensor, then speaks through the voice synthesizer.

Answer Key

The Great St. Pete Lab Mystery

Culprit: Dr Jonas Salk

Acoustic Monitor · Drone Delivery · Safety Goggles · Teal Lanyard · Siren Whistle

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

Clue 1 (Addition): "THE SYSTEM LACKS A MAGLEV GLIDER"

$2625 + 4495 = 7120$ (T) · $1823 + 2545 = 4368$ (L) · $3951 + 3639 = 7590$ (I) · $6181 + 3420 = 9601$ (S) · $630 + 1424 = 2054$ (Y) · $4543 + 3575 = 8118$ (H) · $1897 + 1810 = 3707$ (V) · $2591 + 3904 = 6495$ (D) · $3247 + 6229 = 9476$ (K) · $3704 + 4066 = 7770$ (C) · $2235 + 4683 = 6918$ (G) · $2556 + 1428 = 3984$ (M) · $2378 + 1053 = 3431$ (E) · $1195 + 1203 = 2398$ (A) · $3053 + 2404 = 5457$ (R)

Clue 2 (Subtraction): "THE SUSPECT WORE SAFETY GOGGLES"

$12177 - 3778 = 8399$ (T) · $9192 - 2778 = 6414$ (A) · $5119 - 430 = 4689$ (E) · $8791 - 4415 = 4376$ (P) · $5451 - 344 = 5107$ (O) · $4650 - 104 = 4546$ (H) · $7110 - 2118 = 4992$ (R) · $4392 - 2664 = 1728$ (Y) · $7719 - 4340 = 3379$ (G) · $7227 - 951 = 6276$ (S) · $2286 - 60 = 2226$ (U) · $4630 - 3197 = 1433$ (F) · $8076 - 152 = 7924$ (C) · $2814 - 1620 = 1194$ (W) · $11938 - 3775 = 8163$ (L)

Clue 3 (Multiplication facts (1-12)): "STOP IT WITH A SIREN WHISTLE"

$3 \times 7 = 21$ (S) · $3 \times 4 = 12$ (T) · $9 \times 5 = 45$ (P) · $8 \times 11 = 88$ (E) · $10 \times 4 = 40$ (H) · $7 \times 1 = 7$ (I) · $2 \times 11 = 22$ (N) · $12 \times 9 = 108$ (R) · $11 \times 7 = 77$ (W) · $4 \times 12 = 48$ (O) · $4 \times 9 = 36$ (A) · $8 \times 9 = 72$ (L)

Clue 4 (Rounding): "A TEAL LANYARD WAS LEFT BEHIND"

Round 511 to the nearest hundred = 500 (A) · Round 1,107 to the nearest hundred = 1100 (D) · Round 426 to the nearest ten = 430 (T) · Round 228 to the nearest ten = 230 (B) · Round 8,645 to the nearest thousand = 9000 (H) · Round 130 to the nearest ten = 130 (R) · Round 314 to the nearest hundred = 300 (N) · Round 6,919 to the nearest thousand = 7000 (Y) · Round 3,680 to the nearest hundred = 3700 (W) · Round 2,253 to the nearest hundred = 2300 (S) · Round 21 to the nearest ten = 20 (F) · Round 1,289 to the nearest hundred = 1300 (L) · Round 1,585 to the nearest thousand = 2000 (E) · Round 902 to the nearest hundred = 900 (I)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Dr Jonas Salk

$84 \div 7 = 12$ · $45 \div 9 = 5$ · $42 \div 6 = 7$ · $10 \div 1 = 10$ · $64 \div 8 = 8$ · $90 \div 10 = 9$ · $4 \div 1 = 4$ · $8 \div 4 = 2$ · $54 \div 9 = 6$ · $132 \div 12 = 11$ · $6 \div 2 = 3$