



The Great Dino Lab Mix-Up

Grade 4 math · Place value, Rounding, Addition, Subtraction, Division · Reading level grades 3-4

Detective: _____ Date: _____

Oh no! Someone broke into the Dino Valley Lab and swapped the dinosaur DNA vials. Now we have a glowing T-Rex and a flying Triceratops! The Chief Paleontologist needs your help to catch the Rogue Ranger who did this before they escape the island.

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 Rogue Ranger is _____

Possible suspects

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

NAME	DINO FRIEND	LAB GADGET	COMPASS HAND	FIELD HAT	DINO SNACK
Jack Horner	Riding a Raptor	Laser Scanner	Left Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Tracker Toby	Stomping a Stegosaurus	Laser Scanner	Right Handed Writer	Green Safari Hat	Tricked by Sweet Fruit
Alan Grant	Stomping a Stegosaurus	Sonic Dino Whistle	Right Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Charles Marsh	Stomping a Stegosaurus	Thermal Dino Tracker	Right Handed Writer	Tan Explorer Cap	Tricked by Sweet Fruit
Barnum Brown	Leading a Triceratops	DNA Mutator Ray	Right Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Ian Malcolm	Leading a Triceratops	Night Vision Goggles	Right Handed Writer	Tan Explorer Cap	Scared of Shiny Lights
Explorer Emily	Guiding a T-Rex	Thermal Dino Tracker	Right Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Macy Stone	Leading a Triceratops	Sonic Dino Whistle	Left Handed Writer	Brown Pith Helmet	Scared of Shiny Lights
Robert Bakker	Riding a Raptor	Night Vision Goggles	Right Handed Writer	Tan Explorer Cap	Tricked by Sweet Fruit
Sue Hendrickson	Leading a Triceratops	DNA Mutator Ray	Right Handed Writer	Brown Pith Helmet	Afraid of Loud Roars
Claire Dearing	Leading a Triceratops	Night Vision Goggles	Right Handed Writer	Tan Explorer Cap	Afraid of Loud Roars
Mary Anning	Leading a Triceratops	Laser Scanner	Right Handed Writer	Brown Pith Helmet	Scared of Shiny Lights
Gideon Mantell	Guiding a T-Rex	DNA Mutator Ray	Right Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Dino Dan	Flying a Pterodactyl	Laser Scanner	Left Handed Writer	Tan Explorer Cap	Scared of Shiny Lights
Ranger Owen	Flying a Pterodactyl	Laser Scanner	Right Handed Writer	Green Safari Hat	Tricked by Sweet Fruit
Bones Bailey	Leading a Triceratops	Night Vision Goggles	Right Handed Writer	Brown Pith Helmet	Tricked by Sweet Fruit
Roy Andrews	Stomping a Stegosaurus	DNA Mutator Ray	Left Handed Writer	Green Safari Hat	Afraid of Loud Roars
Ranger Rick	Riding a Raptor	Sonic Dino Whistle	Left Handed Writer	Tan Explorer Cap	Scared of Shiny Lights
Raptor Rex	Stomping a Stegosaurus	Thermal Dino Tracker	Left Handed Writer	Green Safari Hat	Tricked by Sweet Fruit
Dr Wu	Stomping a Stegosaurus	DNA Mutator Ray	Right Handed Writer	Green Safari Hat	Tricked by Sweet Fruit
Digging Daisy	Leading a Triceratops	DNA Mutator Ray	Left Handed Writer	Green Safari Hat	Afraid of Loud Roars

CLUE 1 Place value

We checked the security code lock on the dino cage. The screen shows a mystery number. Find the value of the digit in the tens place to unlock the first clue!

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

T								T					
100	20	1000	3000	80	50	400	50	100	20	30	800	1000	30

T										T							
100	20	1000	8000	500	30	70	80	300	400	50	100	8000	30	9000	6000	1000	8000

What is the value of the 1 in 8,147? → **T**

What is the value of the 5 in 158? → **O**

What is the value of the 8 in 38,043? → **R**

What is the value of the 6 in 6,270? → **K**

What is the value of the 9 in 9,028? → **C**

What is the value of the 3 in 538? → **A**

What is the value of the 3 in 9,377? → **I**

What is the value of the 7 in 279? → **L**

What is the value of the 2 in 327? → **H**

What is the value of the 3 in 3,022? → **Y**

What is the value of the 5 in 560? → **M**

What is the value of the 8 in 1,801? → **V**

What is the value of the 1 in 1,087? → **E**

What is the value of the 8 in 3,989? → **D**

What is the value of the 4 in 471? → **N**

Scratch space:

CLUE 2 Rounding

The lab radar tracks dinosaur footsteps. It only prints out numbers rounded to the nearest ten. Round this footprint count to see where the suspect went next!

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

T									T				T						
290	2900	700	70	7000	70	1700	700	30	290	1100	20	9000	290	700	70	1300	4300	50	200
		T		T									T						
1100	9000	290	2900	290	2900	700	9000	20	20	9000	170	2900	290	2900	110	4300	5000		

Round 286 to the nearest ten → **T**

Round 4,292 to the nearest hundred → **N**

Round 8,543 to the nearest thousand → **I**

Round 169 to the nearest ten → **G**

Round 53 to the nearest ten → **L**

Round 658 to the nearest hundred → **E**

Round 22 to the nearest ten → **R**

Round 2,911 to the nearest hundred → **H**

Round 66 to the nearest ten → **S**

Round 6,583 to the nearest thousand → **U**

Round 1,739 to the nearest hundred → **P**

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

Round 4,748 to the nearest thousand → **D**

Round 26 to the nearest ten → **C**

Round 110 to the nearest ten → **A**

Round 1,337 to the nearest hundred → **O**

Round 1,088 to the nearest hundred → **W**

Scratch space:

CLUE 3 Addition

We found dropped fossil pieces along the muddy trail. Add up the total number of fossils collected to find the suspect's path!

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

T																	T		
4740	8803	4965	9126	5674	5156	7077	7077	4790	7077	5674	4790	9126	4978	4978	4740	3654	3356		

										T					T	
4473	3654	5985	4978	3654	8662	4965	4978	5674	4965	4965	4740	4473	5985	5626	5156	4740

2655 + 2085 = → T	6146 + 2657 = → H	1910 + 1446 = → P
3279 + 1699 = → S	2557 + 4520 = → L	1536 + 2118 = → O
4022 + 4640 = → M	3505 + 2480 = → R	3619 + 5507 = → Y
2933 + 1857 = → A	2348 + 2617 = → E	2211 + 3415 = → U
2088 + 2385 = → F	3500 + 2174 = → W	2608 + 2548 = → I

Scratch space:

CLUE 4 Subtraction

The baby triceratops ate some of our berry supplies. Subtract the eaten berries from our total inventory to see what clue was left behind!

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

T										T				
8464	4299	7571	3387	3494	7571	8469	6710	4147	8464	4299	7615	7571	4362	

													T			
6017	2383	6314	4097	4097	7571	6017	8469	6949	2383	6314	6876	3494	4097	7615	8464	4299

					T
4299	7571	5983	6553	7571	8464

$10164 - 1700 = \square \rightarrow \text{[T]}$

$4259 - 112 = \square \rightarrow \text{[Y]}$

$8093 - 3794 = \square \rightarrow \text{[H]}$

$8593 - 4496 = \square \rightarrow \text{[P]}$

$7621 - 4234 = \square \rightarrow \text{[S]}$

$10600 - 4047 = \square \rightarrow \text{[M]}$

$6890 - 873 = \square \rightarrow \text{[D]}$

$8200 - 629 = \square \rightarrow \text{[E]}$

$5913 - 1551 = \square \rightarrow \text{[F]}$

$6626 - 3132 = \square \rightarrow \text{[N]}$

$7425 - 549 = \square \rightarrow \text{[W]}$

$12717 - 4248 = \square \rightarrow \text{[A]}$

$9879 - 3169 = \square \rightarrow \text{[K]}$

$9037 - 1422 = \square \rightarrow \text{[I]}$

$4883 - 2500 = \square \rightarrow \text{[R]}$

$10540 - 3591 = \square \rightarrow \text{[B]}$

$10453 - 4139 = \square \rightarrow \text{[O]}$

$7001 - 1018 = \square \rightarrow \text{[L]}$

Scratch space:

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

We have a bag of raptor treats to share equally among our patrol teams. Divide the treats evenly to find the final clue!

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:

$22 \div 11 = \boxed{}$

$132 \div 11 = \boxed{}$

$28 \div 4 = \boxed{}$

$64 \div 8 = \boxed{}$

$30 \div 6 = \boxed{}$

$9 \div 9 = \boxed{}$

$27 \div 3 = \boxed{}$

$70 \div 7 = \boxed{}$

$6 \div 2 = \boxed{}$

$48 \div 12 = \boxed{}$

$18 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain flies a giant pterodactyl over the fences, then scans the area with a stolen laser.
2. The villain marches a grumpy triceratops into town, then blasts a tree with a dna mutator ray.
3. The villain rides a fast raptor through the lab gates, then scans the area with a stolen laser.
4. The villain stomps a heavy stegosaurus down the path, then blasts a tree with a dna mutator ray.
5. The villain rides a fast raptor through the lab gates, then slips away using night vision goggles.
6. The villain stomps a heavy stegosaurus down the path, then tracks wild dinos with a thermal screen.
7. The villain leads a roaring t-rex past the cameras, then blasts a tree with a dna mutator ray.
8. The villain marches a grumpy triceratops into town, then blows a loud sonic whistle to escape.
9. The villain leads a roaring t-rex past the cameras, then scans the area with a stolen laser.
10. The villain flies a giant pterodactyl over the fences, then blasts a tree with a dna mutator ray.
11. The villain stomps a heavy stegosaurus down the path, then blows a loud sonic whistle to escape.
12. The villain marches a grumpy triceratops into town, then slips away using night vision goggles.

Answer Key

The Great Dino Lab Mix-Up

Culprit: Alan Grant

Stomping a Stegosaurus · Sonic Dino Whistle · Right Handed Writer · Brown Pith Helmet · Tricked by Sweet Fruit

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THEY DO NOT HAVE A THERMAL DINO TRACKER"

What is the value of the 1 in 8,147? = 100 (T) · What is the value of the 5 in 158? = 50 (O) · What is the value of the 8 in 38,043? = 8000 (R) · What is the value of the 6 in 6,270? = 6000 (K) · What is the value of the 9 in 9,028? = 9000 (C) · What is the value of the 3 in 538? = 30 (A) · What is the value of the 3 in 9,377? = 300 (I) · What is the value of the 7 in 279? = 70 (L) · What is the value of the 2 in 327? = 20 (H) · What is the value of the 3 in 3,022? = 3000 (Y) · What is the value of the 5 in 560? = 500 (M) · What is the value of the 8 in 1,801? = 800 (V) · What is the value of the 1 in 1,087? = 1000 (E) · What is the value of the 8 in 3,989? = 80 (D) · What is the value of the 4 in 471? = 400 (N)

Clue 2 (Rounding): "THE SUSPECT WRITES ONLY WITH THEIR RIGHT HAND"

Round 286 to the nearest ten = 290 (T) · Round 4,292 to the nearest hundred = 4300 (N) · Round 8,543 to the nearest thousand = 9000 (I) · Round 169 to the nearest ten = 170 (G) · Round 53 to the nearest ten = 50 (L) · Round 658 to the nearest hundred = 700 (E) · Round 22 to the nearest ten = 20 (R) · Round 2,911 to the nearest hundred = 2900 (H) · Round 66 to the nearest ten = 70 (S) · Round 6,583 to the nearest thousand = 7000 (U) · Round 1,739 to the nearest hundred = 1700 (P) · Round 223 to the nearest hundred = 200 (Y) · Round 4,748 to the nearest thousand = 5000 (D) · Round 26 to the nearest ten = 30 (C) · Round 110 to the nearest ten = 110 (A) · Round 1,337 to the nearest hundred = 1300 (O) · Round 1,088 to the nearest hundred = 1100 (W)

Clue 3 (Addition): "THEY WILL ALWAYS STOP FOR SOME SWEET FRUIT"

2655 + 2085 = 4740 (T) · 6146 + 2657 = 8803 (H) · 1910 + 1446 = 3356 (P) · 3279 + 1699 = 4978 (S) · 2557 + 4520 = 7077 (L) · 1536 + 2118 = 3654 (O) · 4022 + 4640 = 8662 (M) · 3505 + 2480 = 5985 (R) · 3619 + 5507 = 9126 (Y) · 2933 + 1857 = 4790 (A) · 2348 + 2617 = 4965 (E) · 2211 + 3415 = 5626 (U) · 2088 + 2385 = 4473 (F) · 3500 + 2174 = 5674 (W) · 2608 + 2548 = 5156 (I)

Clue 4 (Subtraction): "THE SNEAKY THIEF DROPPED A BROWN PITH HELMET"

10164 - 1700 = 8464 (T) · 4259 - 112 = 4147 (Y) · 8093 - 3794 = 4299 (H) · 8593 - 4496 = 4097 (P) · 7621 - 4234 = 3387 (S) · 10600 - 4047 = 6553 (M) · 6890 - 873 = 6017 (D) · 8200 - 629 = 7571 (E) · 5913 - 1551 = 4362 (F) · 6626 - 3132 = 3494 (N) · 7425 - 549 = 6876 (W) · 12717 - 4248 = 8469 (A) · 9879 - 3169 = 6710 (K) · 9037 - 1422 = 7615 (I) · 4883 - 2500 = 2383 (R) · 10540 - 3591 = 6949 (B) · 10453 - 4139 = 6314 (O) · 7001 - 1018 = 5983 (L)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Alan Grant

22 ÷ 11 = 2 · 132 ÷ 11 = 12 · 28 ÷ 4 = 7 · 64 ÷ 8 = 8 · 30 ÷ 6 = 5 · 9 ÷ 9 = 1 · 27 ÷ 3 = 9 · 70 ÷ 7 = 10 · 6 ÷ 2 = 3 · 48 ÷ 12 = 4 · 18 ÷ 3 = 6