



The Great Dino Dig Mystery

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

Detective: _____ **Date:** _____

A rare T-rex skull has vanished from Fossil Ridge! The Chief Paleontologist needs your detective skills to track down the thief and recover the fossil.

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 Fossil Thief is _____

Possible suspects

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

NAME	DIG TOOL	TRACKING GEAR	WATCH WRIST	HEADGEAR	WEAKNESS
Chisel Charlie	Laser Scanner	Thermal Sensor	Right Wrist Watch	Safari Fedora	Sticky Resin
Sammy Fossil	Laser Scanner	GPS Beacon	Right Wrist Watch	Raptor Beanie	Sticky Resin
Dino Dan	Steel Pickaxe	Radio Tracker	Right Wrist Watch	Rex Cap	Loud Whistle
Archie Armor	Sonic Chisel	Night Goggles	Right Wrist Watch	Raptor Beanie	Bright Flash
Bone Hunter Bob	Dust Blower	Radio Tracker	Left Wrist Watch	Rex Cap	Loud Whistle
Canyon Cole	Dust Blower	Drone Remote	Left Wrist Watch	Raptor Beanie	Loud Whistle
Tara Talon	Rock Hammer	GPS Beacon	Left Wrist Watch	Raptor Beanie	Bright Flash
Digging Daisy	Dust Blower	Thermal Sensor	Right Wrist Watch	Rex Cap	Sticky Resin
Dr Mary Anning	Dust Blower	Drone Remote	Left Wrist Watch	Raptor Beanie	Sticky Resin
Fossil Frank	Rock Hammer	Thermal Sensor	Right Wrist Watch	Safari Fedora	Sticky Resin
Maya Mesozoic	Steel Pickaxe	Radio Tracker	Right Wrist Watch	Rex Cap	Bright Flash
Ranger Rex	Laser Scanner	Thermal Sensor	Right Wrist Watch	Rex Cap	Sticky Resin
Hugo Horn	Laser Scanner	GPS Beacon	Right Wrist Watch	Rex Cap	Sticky Resin
Brite Bones	Rock Hammer	Radio Tracker	Right Wrist Watch	Safari Fedora	Bright Flash
Gabi Ground	Steel Pickaxe	GPS Beacon	Right Wrist Watch	Rex Cap	Sticky Resin
Tracker Trixie	Laser Scanner	Night Goggles	Right Wrist Watch	Safari Fedora	Bright Flash
Sully Stratum	Laser Scanner	Radio Tracker	Right Wrist Watch	Safari Fedora	Loud Whistle
Prof Barnum Brown	Sonic Chisel	Night Goggles	Left Wrist Watch	Safari Fedora	Bright Flash
Quinn Quarry	Laser Scanner	Radio Tracker	Left Wrist Watch	Rex Cap	Sticky Resin
Zack Zircon	Laser Scanner	Drone Remote	Right Wrist Watch	Rex Cap	Sticky Resin
Explorer Emma	Steel Pickaxe	GPS Beacon	Left Wrist Watch	Rex Cap	Sticky Resin

CLUE 1

Multiplication facts (1-12)

You count the crates of fossil brushes packed in identical rows to decrypt the first log.

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

T																T
49	20	22	8	144	6	6	96	144	44	81	64	22	132	44	64	49

														T	
84	132	22	96	81	27	64	44	22	27	22	15	64	49	22	

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

$5 \times 3 = \square \rightarrow \text{M}$

$9 \times 9 = \square \rightarrow \text{D}$

$6 \times 1 = \square \rightarrow \text{L}$

$8 \times 8 = \square \rightarrow \text{O}$

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

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

$11 \times 4 = \square \rightarrow \text{N}$

$11 \times 2 = \square \rightarrow \text{E}$

$9 \times 3 = \square \rightarrow \text{R}$

$4 \times 2 = \square \rightarrow \text{V}$

$12 \times 11 = \square \rightarrow \text{S}$

$12 \times 7 = \square \rightarrow \text{U}$

$10 \times 2 = \square \rightarrow \text{H}$

Scratch space:

CLUE 2 Addition

Adding up the total dinosaur teeth collected today unlocks another encoded transmission.

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

T								T										T		
312	541	950	628	665	237	930	312	846	950	214	496	628	214	846	214	312	665	541		

		T						T					T	
237	455	312	541	950	496	660	616	541	312	846	496	660	628	312

$105 + 207 = \square \rightarrow \boxed{\text{T}}$

$318 + 632 = \square \rightarrow \boxed{\text{E}}$

$265 + 363 = \square \rightarrow \boxed{\text{S}}$

$88 + 149 = \square \rightarrow \boxed{\text{O}}$

$174 + 367 = \square \rightarrow \boxed{\text{H}}$

$231 + 265 = \square \rightarrow \boxed{\text{R}}$

$97 + 117 = \square \rightarrow \boxed{\text{A}}$

$429 + 187 = \square \rightarrow \boxed{\text{G}}$

$333 + 597 = \square \rightarrow \boxed{\text{U}}$

$587 + 259 = \square \rightarrow \boxed{\text{W}}$

$229 + 436 = \square \rightarrow \boxed{\text{C}}$

$387 + 273 = \square \rightarrow \boxed{\text{I}}$

$153 + 302 = \square \rightarrow \boxed{\text{N}}$

Scratch space:

CLUE 3
Subtraction

Subtracting the damaged rock samples from the total pile reveals the next scrambled lead.

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

T																			
278	760	805	465	411	439	439	597	411	845	150	597	747	747	278	644	140	140	805	463

			T										
730	659	747	278	411	116	454	659	423	805	747	411	845	

$292 - 14 = \square \rightarrow \boxed{\text{T}}$

$516 - 376 = \square \rightarrow \boxed{\text{P}}$

$357 - 207 = \square \rightarrow \boxed{\text{W}}$

$1084 - 324 = \square \rightarrow \boxed{\text{H}}$

$1092 - 362 = \square \rightarrow \boxed{\text{B}}$

$535 - 96 = \square \rightarrow \boxed{\text{L}}$

$1011 - 264 = \square \rightarrow \boxed{\text{S}}$

$1196 - 351 = \square \rightarrow \boxed{\text{N}}$

$581 - 170 = \square \rightarrow \boxed{\text{I}}$

$872 - 275 = \square \rightarrow \boxed{\text{A}}$

$1019 - 214 = \square \rightarrow \boxed{\text{E}}$

$826 - 182 = \square \rightarrow \boxed{\text{O}}$

$670 - 11 = \square \rightarrow \boxed{\text{Y}}$

$600 - 146 = \square \rightarrow \boxed{\text{K}}$

$603 - 140 = \square \rightarrow \boxed{\text{D}}$

$412 - 296 = \square \rightarrow \boxed{\text{C}}$

$611 - 146 = \square \rightarrow \boxed{\text{V}}$

$617 - 194 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 4 Place value

Checking the place value digits on the camp radio frequency unscrambles the hidden tape.

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

A					A			A					
900	3000	20	600	60	900	500	90	900	8000	700	20	6000	5000

						A									
300	20	400	70	40	2000	900	5000	5000	400	20	2000	70	200	8000	70

What is the value of the 9 in 8,900? → **A**

What is the value of the 6 in 644? → **X**

What is the value of the 9 in 796? → **W**

What is the value of the 6 in 86,031? → **F**

What is the value of the 2 in 7,250? → **G**

What is the value of the 7 in 9,474? → **I**

What is the value of the 7 in 4,718? → **L**

What is the value of the 8 in 8,621? → **S**

What is the value of the 6 in 962? → **C**

What is the value of the 5 in 5,378? → **T**

What is the value of the 2 in 9,826? → **E**

What is the value of the 4 in 408? → **H**

What is the value of the 2 in 32,460? → **D**

What is the value of the 5 in 1,599? → **P**

What is the value of the 3 in 43,790? → **R**

What is the value of the 3 in 1,319? → **B**

What is the value of the 4 in 6,248? → **N**

Scratch space:

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

Splitting the supply rations equally among the research teams decodes 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:

$6 \div 1 = \boxed{}$

$16 \div 4 = \boxed{}$

$110 \div 10 = \boxed{}$

$9 \div 9 = \boxed{}$

$108 \div 9 = \boxed{}$

$63 \div 7 = \boxed{}$

$10 \div 2 = \boxed{}$

$21 \div 3 = \boxed{}$

$6 \div 2 = \boxed{}$

$22 \div 11 = \boxed{}$

$48 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain uses a sonic chisel to dig, then checks the night goggles.
2. The villain clears dust with a blower, then tunes the radio tracker.
3. The villain uses a sonic chisel to dig, then tunes the radio tracker.
4. The villain clears dust with a blower, then reads the thermal sensor.
5. The villain swings a rock hammer, then tunes the radio tracker.
6. The villain swings a steel pickaxe, then tracks the gps beacon.
7. The villain scans bones with a laser, then tunes the radio tracker.
8. The villain clears dust with a blower, then checks the night goggles.
9. The villain swings a steel pickaxe, then checks the night goggles.
10. The villain scans bones with a laser, then reads the thermal sensor.
11. The villain scans bones with a laser, then tracks the gps beacon.
12. The villain swings a rock hammer, then reads the thermal sensor.

Answer Key

The Great Dino Dig Mystery

Culprit: Ranger Rex

Laser Scanner · Thermal Sensor · Right Wrist Watch · Rex Cap · Sticky Resin

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A DRONE REMOTE"

$7 \times 7 = 49$ (T) · $5 \times 3 = 15$ (M) · $9 \times 9 = 81$ (D) · $6 \times 1 = 6$ (L) · $8 \times 8 = 64$ (O) · $12 \times 12 = 144$ (I) · $8 \times 12 = 96$ (A) · $11 \times 4 = 44$ (N) · $11 \times 2 = 22$ (E) · $9 \times 3 = 27$ (R) · $4 \times 2 = 8$ (V) · $12 \times 11 = 132$ (S) · $12 \times 7 = 84$ (U) · $10 \times 2 = 20$ (H)

Clue 2 (Addition): "THE SCOUT WEARS A WATCH ON THE RIGHT WRIST"

$105 + 207 = 312$ (T) · $318 + 632 = 950$ (E) · $265 + 363 = 628$ (S) · $88 + 149 = 237$ (O) · $174 + 367 = 541$ (H) · $231 + 265 = 496$ (R) · $97 + 117 = 214$ (A) · $429 + 187 = 616$ (G) · $333 + 597 = 930$ (U) · $587 + 259 = 846$ (W) · $229 + 436 = 665$ (C) · $387 + 273 = 660$ (I) · $153 + 302 = 455$ (N)

Clue 3 (Subtraction): "THE VILLAIN WAS STOPPED BY STICKY RESIN"

$292 - 14 = 278$ (T) · $516 - 376 = 140$ (P) · $357 - 207 = 150$ (W) · $1084 - 324 = 760$ (H) · $1092 - 362 = 730$ (B) · $535 - 96 = 439$ (L) · $1011 - 264 = 747$ (S) · $1196 - 351 = 845$ (N) · $581 - 170 = 411$ (I) · $872 - 275 = 597$ (A) · $1019 - 214 = 805$ (E) · $826 - 182 = 644$ (O) · $670 - 11 = 659$ (Y) · $600 - 146 = 454$ (K) · $603 - 140 = 463$ (D) · $412 - 296 = 116$ (C) · $611 - 146 = 465$ (V) · $617 - 194 = 423$ (R)

Clue 4 (Place value): "A REX CAP WAS LEFT BEHIND AT THE DIG SITE"

What is the value of the 9 in 8,900? = 900 (A) · What is the value of the 6 in 644? = 600 (X) · What is the value of the 9 in 796? = 90 (W) · What is the value of the 6 in 86,031? = 6000 (F) · What is the value of the 2 in 7,250? = 200 (G) · What is the value of the 7 in 9,474? = 70 (I) · What is the value of the 7 in 4,718? = 700 (L) · What is the value of the 8 in 8,621? = 8000 (S) · What is the value of the 6 in 962? = 60 (C) · What is the value of the 5 in 5,378? = 5000 (T) · What is the value of the 2 in 9,826? = 20 (E) · What is the value of the 4 in 408? = 400 (H) · What is the value of the 2 in 32,460? = 2000 (D) · What is the value of the 5 in 1,599? = 500 (P) · What is the value of the 3 in 43,790? = 3000 (R) · What is the value of the 3 in 1,319? = 300 (B) · What is the value of the 4 in 6,248? = 40 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Ranger Rex

$6 \div 1 = 6$ · $16 \div 4 = 4$ · $110 \div 10 = 11$ · $9 \div 9 = 1$ · $108 \div 9 = 12$ · $63 \div 7 = 9$ · $10 \div 2 = 5$ · $21 \div 3 = 7$ · $6 \div 2 = 3$ · $22 \div 11 = 2$ · $48 \div 6 = 8$