



The Dino Ridge Amber Mystery

Grade 5 math · Multiplication, Addition, Place value, Fractions of a number, Division · Reading level grades 5-6

Detective: _____ Date: _____

A rare glowing amber specimen has vanished from the Dino Ridge Vault! The thief left behind footprints and high-tech trail markers across the fossil site. Help Dr. Aris analyze the clue data to catch the culprit.

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 Rogue is _____

Possible suspects

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

NAME	PRIMARY DIG TOOL	FIELD GADGET	DOMINANT HAND	HAIRSTYLE	DEFENSIVE COUNTER
Gideon Mantell	Laser Chisels	Dino Nets	Right-Handed	Braided Hair	Bright Strobe Lights
Jim Jensen	Sonar Radar	Dino Nets	Left-Handed	Braided Hair	Ultrasound Screeches
Othniel Marsh	Fossil Scanner	Sound Baffles	Right-Handed	Spiky Hair	Citrus Sprays
Paul Sereno	Thermal Goggles	Sound Baffles	Right-Handed	Braided Hair	Ultrasound Screeches
Rodolfo Coria	Laser Chisels	Sound Baffles	Left-Handed	Spiky Hair	Bright Strobe Lights
Jack Horner	Thermal Goggles	Pneumatic Picks	Left-Handed	Braided Hair	Bright Strobe Lights
Dong Zhiming	Fossil Scanner	Pneumatic Picks	Right-Handed	Braided Hair	Bright Strobe Lights
Nizar Ibrahim	Grapple Launcher	Drone Decoys	Left-Handed	Spiky Hair	Bright Strobe Lights
Kristina Curry	Sonar Radar	Amber Traps	Right-Handed	Spiky Hair	Bright Strobe Lights
John Ostrom	Sonar Radar	Dino Nets	Left-Handed	Curly Hair	Ultrasound Screeches
Kenneth Carpenter	Thermal Goggles	Dino Nets	Right-Handed	Spiky Hair	Bright Strobe Lights
Karen Chin	Thermal Goggles	Drone Decoys	Right-Handed	Spiky Hair	Citrus Sprays
Diego Pol	Laser Chisels	Amber Traps	Left-Handed	Spiky Hair	Bright Strobe Lights
Phil Currie	Thermal Goggles	Drone Decoys	Left-Handed	Braided Hair	Ultrasound Screeches
Xu Xing	Laser Chisels	Dino Nets	Right-Handed	Spiky Hair	Citrus Sprays
Luis Chiappe	Laser Chisels	Pneumatic Picks	Right-Handed	Curly Hair	Citrus Sprays
Barnum Brown	Grapple Launcher	Sound Baffles	Left-Handed	Spiky Hair	Bright Strobe Lights
Mary Anning	Grapple Launcher	Amber Traps	Right-Handed	Spiky Hair	Citrus Sprays
Edward Cope	Grapple Launcher	Dino Nets	Left-Handed	Spiky Hair	Ultrasound Screeches
Roy Chapman Andrews	Laser Chisels	Dino Nets	Left-Handed	Braided Hair	Ultrasound Screeches
Bob Bakker	Sonar Radar	Amber Traps	Left-Handed	Spiky Hair	Bright Strobe Lights

CLUE 1

Multiplication facts (1-12)

At the Fossil Basin excavation camp, crates of dig supplies were stacked into equal rows to compute totals.

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

T																T
72	84	27	5	42	2	2	35	42	64	15	16	27	45	64	16	72

48	45	27	15	44	16	64	27	15	27	99	16	36	45			

$12 \times 6 =$

→ T

$2 \times 8 =$

→ O

$9 \times 4 =$

→ Y

$1 \times 2 =$

→ L

$5 \times 1 =$

→ V

$9 \times 5 =$

→ S

$8 \times 6 =$

→ U

$12 \times 7 =$

→ H

$3 \times 5 =$

→ D

$9 \times 11 =$

→ C

$8 \times 8 =$

→ N

$5 \times 7 =$

→ A

$11 \times 4 =$

→ R

$9 \times 3 =$

→ E

$7 \times 6 =$

→ I

Scratch space:

CLUE 2 Addition

Our lead scout calculated the combined weight of newly unearthed bones to update the expedition cargo log.

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

T							T							
3843	9643	8983	3479	9518	5077	5279	3843	8983	6772	9088	5994	9518	3479	

			T	T									T				
3479	9151	5279	3843	3843	8983	5373	6772	3479	8005	8628	4153	7582	8983	5281	3843	9643	9518

$1607 + 2236 = \boxed{} \rightarrow \boxed{T}$

$5942 + 2686 = \boxed{} \rightarrow \boxed{N}$

$3474 + 2520 = \boxed{} \rightarrow \boxed{W}$

$3095 + 6423 = \boxed{} \rightarrow \boxed{A}$

$2949 + 2424 = \boxed{} \rightarrow \boxed{D}$

$4079 + 5009 = \boxed{} \rightarrow \boxed{R}$

$2762 + 4010 = \boxed{} \rightarrow \boxed{U}$

$1802 + 2351 = \boxed{} \rightarrow \boxed{G}$

$2572 + 2709 = \boxed{} \rightarrow \boxed{F}$

$2266 + 1213 = \boxed{} \rightarrow \boxed{S}$

$3157 + 1920 = \boxed{} \rightarrow \boxed{B}$

$6140 + 3011 = \boxed{} \rightarrow \boxed{P}$

$3361 + 1918 = \boxed{} \rightarrow \boxed{O}$

$5164 + 3819 = \boxed{} \rightarrow \boxed{E}$

$3011 + 6632 = \boxed{} \rightarrow \boxed{H}$

$3013 + 4992 = \boxed{} \rightarrow \boxed{I}$

$2419 + 5163 = \boxed{} \rightarrow \boxed{L}$

Scratch space:

CLUE 3

The central lab vault security grid displayed numeric power values requiring digit comparison.

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

[illegible]

What is the value of the 6 in 186,819? → **T**

What is the value of the 7 in 157,148? →

What is the value of the 5 in 63,352? → **E**

What is the value of the 3 in 61,036?	→	W
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What is the value of the 6 in 514,629? → **V**

What is the value of the 1 in 91,374? → **Y**

What is the value of the 9 in 673,921? → **S**

What is the value of the 2 in 892,386? → **G**

What is the value of the 8 in 740,484? → **L**

What is the value of the 5 in 415,636? → **R**

What is the value of the 4 in 536,457? → **B**

What is the value of the 6 in 480,469? → **N**

What is the value of the 1 in 59,155? → **A**

What is the value of the 4 in 10,249? → **P**

What is the value of the 7 in 10,670? → **D**

What is the value of the 8 in 978,530? → ☐

What is the value of the 2 in 65,251? → **H**

Scratch space:

CLUE 4
Fractions of a number

A portion of the fossil site map was restored after clearing away ancient sediment layers.

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

E				E			E					E		E					
27	16	32	40	27	15	20	27	37	28	35	20	27	15	27	35	30	6	24	35
35	3	32	34	29	30	37	32	2	35	28	2	37	15	40	35				

$3/5 \text{ of } 45 = \square \rightarrow \boxed{\text{E}}$

$2/6 \text{ of } 87 = \square \rightarrow \boxed{\text{Y}}$

$5/10 \text{ of } 80 = \square \rightarrow \boxed{\text{D}}$

$1/4 \text{ of } 12 = \square \rightarrow \boxed{\text{P}}$

$6/8 \text{ of } 8 = \square \rightarrow \boxed{\text{O}}$

$1/4 \text{ of } 96 = \square \rightarrow \boxed{\text{W}}$

$1/6 \text{ of } 96 = \square \rightarrow \boxed{\text{V}}$

$4/8 \text{ of } 74 = \square \rightarrow \boxed{\text{A}}$

$1/4 \text{ of } 80 = \square \rightarrow \boxed{\text{C}}$

$4/10 \text{ of } 5 = \square \rightarrow \boxed{\text{R}}$

$4/10 \text{ of } 70 = \square \rightarrow \boxed{\text{T}}$

$2/4 \text{ of } 60 = \square \rightarrow \boxed{\text{H}}$

$6/10 \text{ of } 25 = \square \rightarrow \boxed{\text{N}}$

$1/3 \text{ of } 102 = \square \rightarrow \boxed{\text{K}}$

$2/3 \text{ of } 48 = \square \rightarrow \boxed{\text{I}}$

$2/10 \text{ of } 175 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

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

The field supervisor split the daily supply rations equally among the research teams working in the canyon.

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:

$40 \div 5 = \boxed{}$

$110 \div 11 = \boxed{}$

$48 \div 8 = \boxed{}$

$12 \div 4 = \boxed{}$

$81 \div 9 = \boxed{}$

$40 \div 10 = \boxed{}$

$20 \div 4 = \boxed{}$

$84 \div 12 = \boxed{}$

$20 \div 10 = \boxed{}$

$99 \div 9 = \boxed{}$

$144 \div 12 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain cut through solid rock with laser chisels, then muffled heavy footsteps with sound baffles.
2. The villain scaled the cliff face with a grapple launcher, then secured giant specimens with dino nets.
3. The villain scanned the Jurassic canyon with sonar radar, then secured giant specimens with dino nets.
4. The villain analyzed hidden strata with a fossil scanner, then confused guard teams with drone decoys.
5. The villain scaled the cliff face with a grapple launcher, then trapped pursuing raptors with amber traps.
6. The villain cut through solid rock with laser chisels, then trapped pursuing raptors with amber traps.
7. The villain tracked nocturnal dinosaurs with thermal goggles, then secured giant specimens with dino nets.
8. The villain scanned the Jurassic canyon with sonar radar, then trapped pursuing raptors with amber traps.
9. The villain analyzed hidden strata with a fossil scanner, then trapped pursuing raptors with amber traps.
10. The villain scaled the cliff face with a grapple launcher, then muffled heavy footsteps with sound baffles.
11. The villain cut through solid rock with laser chisels, then confused guard teams with drone decoys.
12. The villain analyzed hidden strata with a fossil scanner, then secured giant specimens with dino nets.

Answer Key

The Dino Ridge Amber Mystery

Culprit: Rodolfo Coria

Laser Chisels · Sound Baffles · Left-Handed · Spiky Hair · Bright Strobe Lights

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

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

$12 \times 6 = 72$ (T) · $2 \times 8 = 16$ (O) · $9 \times 4 = 36$ (Y) · $1 \times 2 = 2$ (L) · $5 \times 1 = 5$ (V) · $9 \times 5 = 45$ (S) · $8 \times 6 = 48$ (U) · $12 \times 7 = 84$ (H) · $3 \times 5 = 15$ (D) · $9 \times 11 = 99$ (C) · $8 \times 8 = 64$ (N) · $5 \times 7 = 35$ (A) · $11 \times 4 = 44$ (R) · $9 \times 3 = 27$ (E) · $7 \times 6 = 42$ (I)

Clue 2 (Addition): "THE SABOTEUR WAS SPOTTED USING LEFT HAND"

$1607 + 2236 = 3843$ (T) · $5942 + 2686 = 8628$ (N) · $3474 + 2520 = 5994$ (W) · $3095 + 6423 = 9518$ (A) · $2949 + 2424 = 5373$ (D) · $4079 + 5009 = 9088$ (R) · $2762 + 4010 = 6772$ (U) · $1802 + 2351 = 4153$ (G) · $2572 + 2709 = 5281$ (F) · $2266 + 1213 = 3479$ (S) · $3157 + 1920 = 5077$ (B) · $6140 + 3011 = 9151$ (P) · $3361 + 1918 = 5279$ (O) · $5164 + 3819 = 8983$ (E) · $3011 + 6632 = 9643$ (H) · $3013 + 4992 = 8005$ (I) · $2419 + 5163 = 7582$ (L)

Clue 3 (Place value): "THE VILLAIN WAS REPELLED BY BRIGHT STROBES"

What is the value of the 6 in 186,819? = 6000 (T) · What is the value of the 7 in 157,148? = 7000 (I) · What is the value of the 5 in 63,352? = 50 (E) · What is the value of the 3 in 61,036? = 30 (W) · What is the value of the 6 in 514,629? = 600 (V) · What is the value of the 1 in 91,374? = 1000 (Y) · What is the value of the 9 in 673,921? = 900 (S) · What is the value of the 2 in 892,386? = 2000 (G) · What is the value of the 8 in 740,484? = 80 (L) · What is the value of the 5 in 415,636? = 5000 (R) · What is the value of the 4 in 536,457? = 400 (B) · What is the value of the 6 in 480,469? = 60 (N) · What is the value of the 1 in 59,155? = 100 (A) · What is the value of the 4 in 10,249? = 40 (P) · What is the value of the 7 in 10,670? = 70 (D) · What is the value of the 8 in 978,530? = 8000 (O) · What is the value of the 2 in 65,251? = 200 (H)

Clue 4 (Fractions of a number): "EVIDENCE AT SCENE SHOWS SPIKY HAIR STRANDS"

$\frac{3}{5}$ of 45 = 27 (E) · $\frac{2}{6}$ of 87 = 29 (Y) · $\frac{5}{10}$ of 80 = 40 (D) · $\frac{1}{4}$ of 12 = 3 (P) · $\frac{6}{8}$ of 8 = 6 (O) · $\frac{1}{4}$ of 96 = 24 (W) · $\frac{1}{6}$ of 96 = 16 (V) · $\frac{4}{8}$ of 74 = 37 (A) · $\frac{1}{4}$ of 80 = 20 (C) · $\frac{4}{10}$ of 5 = 2 (R) · $\frac{4}{10}$ of 70 = 28 (T) · $\frac{2}{4}$ of 60 = 30 (H) · $\frac{6}{10}$ of 25 = 15 (N) · $\frac{1}{3}$ of 102 = 34 (K) · $\frac{2}{3}$ of 48 = 32 (I) · $\frac{2}{10}$ of 175 = 35 (S)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Rodolfo Coria

$40 \div 5 = 8$ · $110 \div 11 = 10$ · $48 \div 8 = 6$ · $12 \div 4 = 3$ · $81 \div 9 = 9$ · $40 \div 10 = 4$ · $20 \div 4 = 5$ · $84 \div 12 = 7$ · $20 \div 10 = 2$ · $99 \div 9 = 11$ · $144 \div 12 = 12$