



The Cretaceous Fossil Caper

Grade 5 math · Place value, Multiplication, Word problems, Multi-step word problems, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

A rare, glowing golden T-Rex skull has been stolen from the Cretaceous Exhibit at the Dino Valley Research Station! The culprit is one of twenty-four suspect paleontologists who have been working with genetically revived dinosaur traits.

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	DINO GENE POWER	FIELD TOOL	HAND PREFERENCE	FIELD GEAR HAT	ALLERGY TRIGGER
Dr Henry Wu	Raptor Agility	Seismic Hammer	Right Handed	Red Hard Hat	Amber Sap Smell
Dr Sarah Harding	Triceratops Shielding	Gravity Crane	Left Handed	Red Hard Hat	Volcanic Ash
Dr Mary Anning	Triceratops Shielding	Sonic Brush	Right Handed	Red Hard Hat	Volcanic Ash
Patricia Vickers	Raptor Agility	Laser Chisel	Right Handed	Khaki Sun Hat	Volcanic Ash
Edward Cope	T-Rex Jaw Strength	Sonic Brush	Right Handed	Khaki Sun Hat	Volcanic Ash
Dr Rex Stone	Raptor Agility	Sonic Brush	Left Handed	Khaki Sun Hat	Amber Sap Smell
Dr Nick Van Owen	Triceratops Shielding	Gravity Crane	Right Handed	Green Camo Cap	Volcanic Ash
Dr Steve Brusatte	Ankylosaurus Clubbing	Gravity Crane	Right Handed	Khaki Sun Hat	Amber Sap Smell
Othniel Marsh	T-Rex Jaw Strength	Gravity Crane	Right Handed	Green Camo Cap	Volcanic Ash
Owen Grady	Raptor Agility	Laser Chisel	Left Handed	Khaki Sun Hat	Fern Pollen
Dr Jack Horner	T-Rex Jaw Strength	Seismic Hammer	Right Handed	Khaki Sun Hat	Volcanic Ash
Dr Paul Sereno	Pterodactyl Flight	Laser Chisel	Right Handed	Green Camo Cap	Amber Sap Smell
Ian Malcolm	T-Rex Jaw Strength	Thermal Scanner	Right Handed	Khaki Sun Hat	Amber Sap Smell
Alan Grant	Triceratops Shielding	Thermal Scanner	Right Handed	Red Hard Hat	Amber Sap Smell
Ellie Sattler	Pterodactyl Flight	Sonic Brush	Right Handed	Khaki Sun Hat	Volcanic Ash
Sue Hendrickson	Triceratops Shielding	Thermal Scanner	Left Handed	Green Camo Cap	Amber Sap Smell
Dr Karen Chin	Pterodactyl Flight	Sonic Brush	Right Handed	Khaki Sun Hat	Fern Pollen
Dr Dong Zhiming	T-Rex Jaw Strength	Thermal Scanner	Left Handed	Green Camo Cap	Volcanic Ash
Dr Luis Alvarez	T-Rex Jaw Strength	Thermal Scanner	Left Handed	Red Hard Hat	Fern Pollen
Dr Richard Owen	Ankylosaurus Clubbing	Thermal Scanner	Left Handed	Khaki Sun Hat	Volcanic Ash
Claire Dearing	Raptor Agility	Thermal Scanner	Right Handed	Khaki Sun Hat	Volcanic Ash

CLUE 1 Place value

The security terminal has a digital lockout. We must examine the dinosaur population database to find the correct digit in the ten-thousands place to unlock the first hint.

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

T			T											T				
9000	3000	4000	9000	3000	30	4000	70	20	400	4000	1000	2000	400	9000	100	1000	4000	7000

1000	4000	30	1000	700	30	50	3000	7000	700	700	4000	200

What is the value of the 9 in 369,777? → **T**

What is the value of the 4 in 104,960? → **E**

What is the value of the 5 in 22,457? → **C**

What is the value of the 7 in 957,051? → **A**

What is the value of the 2 in 574,727? → **D**

What is the value of the 3 in 213,685? → **H**

What is the value of the 7 in 158,751? → **M**

What is the value of the 2 in 92,783? → **N**

What is the value of the 1 in 947,136? → **U**

What is the value of the 7 in 41,974? → **F**

What is the value of the 3 in 86,239? → **I**

What is the value of the 2 in 71,256? → **R**

What is the value of the 4 in 951,402? → **O**

What is the value of the 1 in 61,398? → **S**

Scratch space:

Multiplication facts (1-12)

The thief escaped through the fossil storage room. We need to multiply the rows of fossil crates by the boxes per row to calculate how many bones are missing.

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

A 2x10 grid of boxes. The top row contains the following sequence: 'T' (orange), empty, empty, empty, empty, empty, empty, empty, empty, empty, 'T' (orange), empty, empty, empty, empty, empty. The bottom row contains: empty, empty, empty, empty, 'T' (orange), empty, empty, empty, empty, 'T' (orange), empty, empty, empty, empty, empty, empty, empty, empty, 'T' (orange).

T										T								
36	7	20	144	35	28	88	144	27	54	20	18	36	7	20	110	99		
99	110	21	7	36	7	81	28	18	36	35	27	28	88	35	14	77	110	36

$$9 \times 4 = \boxed{} \rightarrow \boxed{\text{T}}$$

$9 \times 9 = \square \rightarrow \mathbf{A}$

$$4 \times 5 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$7 \times 2 = \boxed{} \rightarrow \boxed{\text{C}}$$

$3 \times 7 = \square \rightarrow \mathbf{G}$

$$5 \times 7 = \boxed{} \rightarrow \boxed{0}$$

$9 \times 6 = \square \rightarrow \mathbf{S}$

$10 \times 11 = \square \rightarrow \boxed{1}$

$$8 \times 11 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$6 \times 3 = \boxed{} \rightarrow \mathbf{D}$$

$$7 \times 1 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$9 \times 3 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4 \times 7 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$9 \times 11 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$12 \times 12 = \boxed{} \rightarrow \boxed{\text{Y}}$

$$7 \times 11 = \boxed{} \rightarrow \boxed{\text{K}}$$

Scratch space:

CLUE 3

Word problems

To track the getaway footprints, we need to solve a word problem about the total distance traveled by a stampeding herd of Triceratops.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

V										S	H
72	92	15	41	7	28	115	41	7			

.

Ranger Parker lined up 6 rows of 12 amber crystals. How many amber crystals in all?

Answer: → **V**

There were 56 raptor claws. 28 were used up. How many raptor claws are left?

Answer: → **N**

Ranger Parker found 39 dino eggshells yesterday and 2 more today. How many dino eggshells in all?

Answer: → **C**

There were 23 raptor claws. 16 were used up. How many raptor claws are left?

Answer: → **A**

Ranger Parker found 33 amber crystals yesterday and 59 more today. How many amber crystals in all?

Answer: → **O**

There were 149 fossilized teeth. 34 were used up. How many fossilized teeth are left?

Answer: → **I**

There were 50 dino eggshells. 35 were used up. How many dino eggshells are left?

Answer: → **L**

Scratch space:

CLUE 4

Multi-step word problems

We discover a dropped field notebook containing several supply logs. By adding the broken tools and subtracting the salvaged items, we pinpoint the exact campsite.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A strand of K K T hair turned up at the scene.

29 62 63 29 75 22 25 85 62 63

Ranger Parker earned 6 fossilized teeth in each of 2 rounds, plus 21 bonus fossilized teeth. Then 4 fossilized teeth were lost. How many fossilized teeth are left?

Answer: → K

There were 292 dino eggshells in all. 2 Dino Patrol used 22 dino eggshells each. The other 4 Dino Patrol shared the rest equally. How many dino eggshells did each of the other Dino Patrol get?

Answer: → H

There were 70 volcanic rocks in all. 1 Dino Patrol used 26 volcanic rocks each. The other 2 Dino Patrol shared the rest equally. How many volcanic rocks did each of the other Dino Patrol get?

Answer: → S

There were 206 dino eggshells in all. 6 dino eggshells were set aside. The rest were shared equally among 8 Dino Patrol. How many dino eggshells did each get?

Answer: → U

Ranger Parker earned 2 raptor claws in each of 2 rounds, plus 85 bonus raptor claws. Then 14 raptor claws were lost. How many raptor claws are left?

Answer: → I

Ranger Parker filled 9 boxes with 3 amber crystals each, then found 36 more amber crystals. How many amber crystals are there in all?

Answer: → A

Ranger Parker earned 2 fossilized teeth in each of 6 rounds, plus 87 bonus fossilized teeth. Then 14 fossilized teeth were lost. How many fossilized teeth are left?

Answer: → N

Scratch space:

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

A pile of prehistoric fruit was left behind near the raptor cage. We must divide the total berry count equally among the hungry baby dinosaurs to find the hidden room code.

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:

$60 \div 12 = \boxed{}$

$36 \div 6 = \boxed{}$

$99 \div 9 = \boxed{}$

$64 \div 8 = \boxed{}$

$27 \div 3 = \boxed{}$

$18 \div 9 = \boxed{}$

$56 \div 8 = \boxed{}$

$50 \div 5 = \boxed{}$

$3 \div 3 = \boxed{}$

$44 \div 11 = \boxed{}$

$6 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blocked the incoming tranquilizer darts, then brushed away the pressure sensors with a sonic brush.
2. The villain soared down from the glass ceiling dome, then sliced the display glass with a laser chisel.
3. The villain blocked the incoming tranquilizer darts, then shattered the floor vaults with a seismic hammer.
4. The villain blocked the incoming tranquilizer darts, then lifted the heavy fossil with a gravity crane.
5. The villain crunched through the steel vault doors, then brushed away the pressure sensors with a sonic brush.
6. The villain soared down from the glass ceiling dome, then brushed away the pressure sensors with a sonic brush.
7. The villain crunched through the steel vault doors, then shattered the floor vaults with a seismic hammer.
8. The villain blocked the incoming tranquilizer darts, then tracked the guard rotations with a thermal scanner.
9. The villain smashed the concrete pedestal to pieces, then sliced the display glass with a laser chisel.
10. The villain smashed the concrete pedestal to pieces, then shattered the floor vaults with a seismic hammer.
11. The villain vaulted over the high security laser grid, then tracked the guard rotations with a thermal scanner.
12. The villain vaulted over the high security laser grid, then sliced the display glass with a laser chisel.

Answer Key

The Cretaceous Fossil Caper

Culprit: Patricia Vickers

Raptor Agility · Laser Chisel · Right Handed · Khaki Sun Hat · Volcanic Ash

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE A SEISMIC HAMMER"

What is the value of the 9 in 369,777? = 9000 (T) · What is the value of the 4 in 104,960? = 4000 (E) · What is the value of the 5 in 22,457? = 50 (C) · What is the value of the 7 in 957,051? = 7000 (A) · What is the value of the 2 in 574,727? = 20 (D) · What is the value of the 3 in 213,685? = 3000 (H) · What is the value of the 7 in 158,751? = 700 (M) · What is the value of the 2 in 92,783? = 2000 (N) · What is the value of the 1 in 947,136? = 100 (U) · What is the value of the 7 in 41,974? = 70 (F) · What is the value of the 3 in 86,239? = 30 (I) · What is the value of the 2 in 71,256? = 200 (R) · What is the value of the 4 in 951,402? = 400 (O) · What is the value of the 1 in 61,398? = 1000 (S)

Clue 2 (Multiplication facts (1-12)): "THEY ONLY USED THEIR RIGHT HAND TO UNLOCK IT"

$9 \times 4 = 36$ (T) · $9 \times 9 = 81$ (A) · $4 \times 5 = 20$ (E) · $7 \times 2 = 14$ (C) · $3 \times 7 = 21$ (G) · $5 \times 7 = 35$ (O) · $9 \times 6 = 54$ (S) · $10 \times 11 = 110$ (I) · $8 \times 11 = 88$ (L) · $6 \times 3 = 18$ (D) · $7 \times 1 = 7$ (H) · $9 \times 3 = 27$ (U) · $4 \times 7 = 28$ (N) · $9 \times 11 = 99$ (R) · $12 \times 12 = 144$ (Y) · $7 \times 11 = 77$ (K)

Clue 3 (Word problems): "VOLCANIC ASH"

Ranger Parker lined up 6 rows of 12 amber crystals. How many amber crystals in all? = 72 (V) · There were 56 raptor claws. 28 were used up. How many raptor claws are left? = 28 (N) · Ranger Parker found 39 dino eggshells yesterday and 2 more today. How many dino eggshells in all? = 41 (C) · There were 23 raptor claws. 16 were used up. How many raptor claws are left? = 7 (A) · Ranger Parker found 33 amber crystals yesterday and 59 more today. How many amber crystals in all? = 92 (O) · There were 149 fossilized teeth. 34 were used up. How many fossilized teeth are left? = 115 (I) · There were 50 dino eggshells. 35 were used up. How many dino eggshells are left? = 15 (L)

Clue 4 (Multi-step word problems): "KHAKI SUN HAT"

Ranger Parker earned 6 fossilized teeth in each of 2 rounds, plus 21 bonus fossilized teeth. Then 4 fossilized teeth were lost. How many fossilized teeth are left? = 29 (K) · There were 292 dino eggshells in all. 2 Dino Patrol used 22 dino eggshells each. The other 4 Dino Patrol shared the rest equally. How many dino eggshells did each of the other Dino Patrol get? = 62 (H) · There were 70 volcanic rocks in all. 1 Dino Patrol used 26 volcanic rocks each. The other 2 Dino Patrol shared the rest equally. How many volcanic rocks did each of the other Dino Patrol get? = 22 (S) · There were 206 dino eggshells in all. 6 dino eggshells were set aside. The rest were shared equally among 8 Dino Patrol. How many dino eggshells did each get? = 25 (U) · Ranger Parker earned 2 raptor claws in each of 2 rounds, plus 85 bonus raptor claws. Then 14 raptor claws were lost. How many raptor claws are left? = 75 (I) · Ranger Parker filled 9 boxes with 3 amber crystals each, then found 36 more amber crystals. How many amber crystals are there in all? = 63 (A) · Ranger Parker earned 2 fossilized teeth in each of 6 rounds, plus 87 bonus fossilized teeth. Then 14 fossilized teeth were lost. How many fossilized teeth are left? = 85 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → Patricia Vickers

$60 \div 12 = 5$ · $36 \div 6 = 6$ · $99 \div 9 = 11$ · $64 \div 8 = 8$ · $27 \div 3 = 9$ · $18 \div 9 = 2$ · $56 \div 8 = 7$ · $50 \div 5 = 10$ · $3 \div 3 = 1$ · $44 \div 11 = 4$ · $6 \div 2 = 3$