



The Cretaceous Reserve Caper

Grade 4 math · Rounding, Addition, Subtraction, Multiplication, Division · Reading level grades 7-9

Detective: _____ Date: _____

An alarm has shattered the night at the Late Cretaceous Biosphere Reserve. Someone has breached the high-security gene-vault and stolen invaluable prehistoric DNA sequences. The security team suspects a rogue paleontologist on the staff who has spliced themselves with dinosaur traits to slip past the defenses. You must analyze the evidence, trace the genetic markers, and find 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 dino-smuggler is _____

Possible suspects

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

NAME	SPLICED DNA	SECONDARY TRAIT	DOMINANT TRACK	FEATHER COLOR	DETERRENT
Dr. Roy Andrews	Ankylosaurus Armor	Thermal Vision	right footed tracks	Cobalt Feathers	Bright Flare
Dr. Dong Zhiming	Pterodactyl Flight	Quills Projectile	right footed tracks	Crimson Feathers	Cold Spray
Dr. Phil Currie	Tyrannosaurus Bite	Acid Spit	right footed tracks	Cobalt Feathers	Sonic Whistle
Dr. Mary Anning	Tyrannosaurus Bite	Electric Shock	right footed tracks	Crimson Feathers	Cold Spray
Dr. Robert Bakker	Velociraptor Speed	Thermal Vision	left footed tracks	Crimson Feathers	Cold Spray
Dr. Barnum Brown	Tyrannosaurus Bite	Acid Spit	right footed tracks	Emerald Feathers	Cold Spray
Dr. Gideon Mantell	Ankylosaurus Armor	Thermal Vision	left footed tracks	Emerald Feathers	Sonic Whistle
Dr. Donald Johanson	Pterodactyl Flight	Camouflage Skin	right footed tracks	Crimson Feathers	Cold Spray
Dr. Kristi Curry	Tyrannosaurus Bite	Quills Projectile	right footed tracks	Crimson Feathers	Cold Spray
Dr. Thomas Holtz	Tyrannosaurus Bite	Quills Projectile	right footed tracks	Crimson Feathers	Bright Flare
Dr. Stephen Brusatte	Pterodactyl Flight	Acid Spit	right footed tracks	Emerald Feathers	Sonic Whistle
Dr. Patricia Vickers	Ankylosaurus Armor	Camouflage Skin	left footed tracks	Crimson Feathers	Cold Spray
Dr. Charles Knight	Velociraptor Speed	Camouflage Skin	left footed tracks	Crimson Feathers	Sonic Whistle
Dr. Susan Maidment	Velociraptor Speed	Acid Spit	right footed tracks	Crimson Feathers	Cold Spray
Dr. Othniel Marsh	Ankylosaurus Armor	Thermal Vision	right footed tracks	Crimson Feathers	Bright Flare
Dr. Xu Xing	Pterodactyl Flight	Thermal Vision	right footed tracks	Emerald Feathers	Cold Spray
Dr. Karen Chin	Ankylosaurus Armor	Acid Spit	left footed tracks	Crimson Feathers	Cold Spray
Dr. Richard Owen	Ankylosaurus Armor	Electric Shock	right footed tracks	Crimson Feathers	Bright Flare
Dr. Luis Chiappe	Tyrannosaurus Bite	Electric Shock	left footed tracks	Cobalt Feathers	Sonic Whistle
Dr. Edward Cope	Tyrannosaurus Bite	Quills Projectile	left footed tracks	Emerald Feathers	Sonic Whistle
Dr. Paul Sereno	Velociraptor Speed	Electric Shock	right footed tracks	Crimson Feathers	Sonic Whistle

CLUE 1 Rounding

Our long-range sonar scanner picks up a massive signature moving through the fern valley, but the digital display is flickering and only outputs rounded values. We need to round these signals to the nearest hundred to isolate the thief's coordinate.

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

T			T											T				
130	4300	500	130	4300	230	500	370	90	3000	500	70	1100	3000	130	2900	70	500	
500	30	500	9000	130	900	230	9000	70	4300	3000	9000	1700						

Round 133 to the nearest ten → **T**

Round 93 to the nearest ten → **D**

Round 31 to the nearest ten → **L**

Round 459 to the nearest hundred → **E**

Round 9,289 to the nearest thousand → **C**

Round 373 to the nearest ten → **F**

Round 73 to the nearest ten → **S**

Round 2,943 to the nearest hundred → **U**

Round 2,793 to the nearest thousand → **O**

Round 1,730 to the nearest hundred → **K**

Round 1,145 to the nearest hundred → **N**

Round 233 to the nearest ten → **I**

Round 928 to the nearest hundred → **R**

Round 4,335 to the nearest hundred → **H**

Scratch space:

CLUE 2 Addition

The team discovers several broken dinosaur eggshells near the incubation lab. By totaling the fragments found across the different nesting sectors, we can calculate the exact weight of the stolen clutch and unlock the security log.

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

T						T				T				
7163	6813	8081	7031	2385	8231	6813	7163	2562	7984	7984	7163	5068	4094	8094

7862	7031	8081	8094	8094	8081	4733	6021	4380	9653	6813	4733	8081	8081	7862	8081	7031

$3991 + 3172 = \boxed{} \rightarrow \boxed{\text{T}}$

$2518 + 5576 = \boxed{} \rightarrow \boxed{\text{S}}$

$3416 + 1652 = \boxed{} \rightarrow \boxed{\text{W}}$

$1825 + 2908 = \boxed{} \rightarrow \boxed{\text{D}}$

$962 + 1423 = \boxed{} \rightarrow \boxed{\text{I}}$

$2538 + 1842 = \boxed{} \rightarrow \boxed{\text{U}}$

$4646 + 2167 = \boxed{} \rightarrow \boxed{\text{H}}$

$2861 + 5001 = \boxed{} \rightarrow \boxed{\text{P}}$

$4098 + 2933 = \boxed{} \rightarrow \boxed{\text{R}}$

$6005 + 3648 = \boxed{} \rightarrow \boxed{\text{C}}$

$3331 + 4653 = \boxed{} \rightarrow \boxed{\text{O}}$

$2275 + 1819 = \boxed{} \rightarrow \boxed{\text{A}}$

$1065 + 1497 = \boxed{} \rightarrow \boxed{\text{F}}$

$3884 + 2137 = \boxed{} \rightarrow \boxed{\text{M}}$

$5158 + 2923 = \boxed{} \rightarrow \boxed{\text{E}}$

$2760 + 5471 = \boxed{} \rightarrow \boxed{\text{G}}$

Scratch space:

CLUE 3

Subtraction

A sudden power drain hits the perimeter fences as the saboteur bypasses the main generator. We must calculate the remaining megawatt reserve by subtracting the lost energy from our baseline to keep the sanctuary secure.

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

7137 2405 6364 6542 2642 5369 4859 8262 5336 3980 3358 6364 6364 8142 4859 5239 5239 5525 5239

5903 1146 5239 1027 3358 1270 5369 6364 8262 7137 5239

$7330 - 193 = \boxed{} \rightarrow \boxed{\text{C}}$

$$5935 - 4789 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$6548 - 1689 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$7458 - 2122 = \boxed{} \rightarrow \boxed{\mathbf{Y}}$$

$$3199 - 794 = \boxed{} \rightarrow \boxed{0}$$

$$8380 - 2855 = \boxed{} \rightarrow \boxed{\mathbf{Z}}$$

$$9870 - 4501 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$5820 - 2462 = \boxed{} \rightarrow \boxed{\text{I}}$$

$4958 - 2316 = \boxed{} \rightarrow \boxed{\text{S}}$

$$11498 - 3236 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$8652 - 2288 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$9269 - 3366 = \boxed{} \rightarrow \boxed{\text{T}}$$

$12835 - 4693 = \boxed{} \rightarrow \boxed{\text{F}}$

$$3191 - 2164 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$4943 - 3673 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$8526 - 1984 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

$$6625 - 2645 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$10151 - 4912 = \boxed{} \rightarrow \boxed{\text{E}}$$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The tracker spots identical rows of fossilized theropod footprints embedded in the dried mudbank. Multiplying the number of strides by the distance of each pace will pinpoint the exact stride length of the fleeing suspect.

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

C													
88	24	55	4	49	14	2	15	30	3	10	110	30	24
18	24	55	15	10	30	18	2	30	3	24	10	110	30
30	2	9	55	2	30	49							

$8 \times 11 = \square \rightarrow \text{C}$

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

$2 \times 1 = \square \rightarrow \text{N}$

$3 \times 1 = \square \rightarrow \text{A}$

$11 \times 5 = \square \rightarrow \text{I}$

$1 \times 9 = \square \rightarrow \text{G}$

$7 \times 2 = \square \rightarrow \text{O}$

$9 \times 2 = \square \rightarrow \text{D}$

$6 \times 4 = \square \rightarrow \text{R}$

$10 \times 11 = \square \rightarrow \text{H}$

$5 \times 6 = \square \rightarrow \text{E}$

$10 \times 1 = \square \rightarrow \text{T}$

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

$2 \times 2 = \square \rightarrow \text{M}$

Scratch space:

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

To search the vast volcanic canyon before nightfall, we need to divide our remaining drone fleet equally among the search grids. Finding the correct share per sector will optimize our sensors and reveal the thief's hideout.

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:

$18 \div 3 = \boxed{}$

$108 \div 9 = \boxed{}$

$16 \div 8 = \boxed{}$

$4 \div 4 = \boxed{}$

$60 \div 6 = \boxed{}$

$66 \div 6 = \boxed{}$

$12 \div 4 = \boxed{}$

$54 \div 6 = \boxed{}$

$35 \div 7 = \boxed{}$

$84 \div 12 = \boxed{}$

$36 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain soars over the electric fences using pterodactyl flight, then melts the steel safe with acid spit.
2. The villain soars over the electric fences using pterodactyl flight, then disables the security cameras with quill projectiles.
3. The villain soars over the electric fences using pterodactyl flight, then navigates the dark tunnels using thermal vision.
4. The villain disorients the guards with a parasaurolophus sonic call, then navigates the dark tunnels using thermal vision.
5. The villain crushes the reinforced gates with a t-rex bite, then melts the steel safe with acid spit.
6. The villain soars over the electric fences using pterodactyl flight, then blends into the jungle foliage with camouflage skin.
7. The villain disorients the guards with a parasaurolophus sonic call, then melts the steel safe with acid spit.
8. The villain crushes the reinforced gates with a t-rex bite, then disables the security cameras with quill projectiles.
9. The villain crushes the reinforced gates with a t-rex bite, then blends into the jungle foliage with camouflage skin.
10. The villain disorients the guards with a parasaurolophus sonic call, then short-circuits the main grid with an electric shock.
11. The villain crushes the reinforced gates with a t-rex bite, then navigates the dark tunnels using thermal vision.
12. The villain sprints past the motion sensors with velociraptor speed, then melts the steel safe with acid spit.

Answer Key

The Cretaceous Reserve Caper

Culprit: Dr. Kristi Curry

Tyrannosaurus Bite · Quills Projectile · right footed tracks · Crimson Feathers · Cold Spray

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE THIEF DOES NOT USE ELECTRIC SHOCK"

Round 133 to the nearest ten = 130 (T) · Round 93 to the nearest ten = 90 (D) · Round 31 to the nearest ten = 30 (L) · Round 459 to the nearest hundred = 500 (E) · Round 9,289 to the nearest thousand = 9000 (C) · Round 373 to the nearest ten = 370 (F) · Round 73 to the nearest ten = 70 (S) · Round 2,943 to the nearest hundred = 2900 (U) · Round 2,793 to the nearest thousand = 3000 (O) · Round 1,730 to the nearest hundred = 1700 (K) · Round 1,145 to the nearest hundred = 1100 (N) · Round 233 to the nearest ten = 230 (I) · Round 928 to the nearest hundred = 900 (R) · Round 4,335 to the nearest hundred = 4300 (H)

Clue 2 (Addition): "THE RIGHT FOOT WAS PRESSED MUCH DEEPER"

$3991 + 3172 = 7163$ (T) · $2518 + 5576 = 8094$ (S) · $3416 + 1652 = 5068$ (W) · $1825 + 2908 = 4733$ (D) · $962 + 1423 = 2385$ (I) · $2538 + 1842 = 4380$ (U) · $4646 + 2167 = 6813$ (H) · $2861 + 5001 = 7862$ (P) · $4098 + 2933 = 7031$ (R) · $6005 + 3648 = 9653$ (C) · $3331 + 4653 = 7984$ (O) · $2275 + 1819 = 4094$ (A) · $1065 + 1497 = 2562$ (F) · $3884 + 2137 = 6021$ (M) · $5158 + 2923 = 8081$ (E) · $2760 + 5471 = 8231$ (G)

Clue 3 (Subtraction): "COLD SPRAY WILL FREEZE THEM IN PLACE"

$7330 - 193 = 7137$ (C) · $5935 - 4789 = 1146$ (H) · $6548 - 1689 = 4859$ (R) · $7458 - 2122 = 5336$ (Y) · $3199 - 794 = 2405$ (O) · $8380 - 2855 = 5525$ (Z) · $9870 - 4501 = 5369$ (P) · $5820 - 2462 = 3358$ (I) · $4958 - 2316 = 2642$ (S) · $11498 - 3236 = 8262$ (A) · $8652 - 2288 = 6364$ (L) · $9269 - 3366 = 5903$ (T) · $12835 - 4693 = 8142$ (F) · $3191 - 2164 = 1027$ (M) · $4943 - 3673 = 1270$ (N) · $8526 - 1984 = 6542$ (D) · $6625 - 2645 = 3980$ (W) · $10151 - 4912 = 5239$ (E)

Clue 4 (Multiplication facts (1-12)): "CRIMSON FEATHER DRIFTED NEAR THE ENGINES"

$8 \times 11 = 88$ (C) · $5 \times 3 = 15$ (F) · $2 \times 1 = 2$ (N) · $3 \times 1 = 3$ (A) · $11 \times 5 = 55$ (I) · $1 \times 9 = 9$ (G) · $7 \times 2 = 14$ (O) · $9 \times 2 = 18$ (D) · $6 \times 4 = 24$ (R) · $10 \times 11 = 110$ (H) · $5 \times 6 = 30$ (E) · $10 \times 1 = 10$ (T) · $7 \times 7 = 49$ (S) · $2 \times 2 = 4$ (M)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Dr. Kristi Curry

$18 \div 3 = 6$ · $108 \div 9 = 12$ · $16 \div 8 = 2$ · $4 \div 4 = 1$ · $60 \div 6 = 10$ · $66 \div 6 = 11$ · $12 \div 4 = 3$ · $54 \div 6 = 9$ · $35 \div 7 = 5$ · $84 \div 12 = 7$ · $36 \div 9 = 4$