



The Fossil Ridge Heist

Grade 5 math · Multiplication, Fractions of a number, Order of operations, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

A priceless Spinosaurus skull has disappeared from the main tent at Bone Ridge Paleontology Camp. You must use your deduction skills and math logs to track down the thief before the convoy leaves.

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 Snatcher is _____

Possible suspects

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

NAME	EXCAVATION TOOL	FIELD GEAR	HANDEDNESS	HAIR COLOR	DISTRACTION WEAKNESS
Prof Mary Anning	Brush Kit	Duster	Right Handed	Sandy Blond	Bright Flash
Dr Xu Xing	Chisel Set	Magnifier	Left Handed	Auburn Brown	Water Splash
Dr Louis Leakey	Brush Kit	Duster	Left Handed	Dusty Black	Water Splash
Dr Angela Milner	Rock Hammer	Drone Cam	Right Handed	Auburn Brown	Water Splash
Dr Gideon Mantell	Hand Scanner	Magnifier	Left Handed	Dusty Black	Water Splash
Dr Kristi Curry	Pickaxe	Magnifier	Right Handed	Auburn Brown	Loud Whistle
Dr Patricia Vickers	Pickaxe	GPS Tracker	Left Handed	Auburn Brown	Bright Flash
Dr Edward Cope	Hand Scanner	Drone Cam	Right Handed	Dusty Black	Loud Whistle
Dr Roy Chapman	Brush Kit	GPS Tracker	Left Handed	Auburn Brown	Water Splash
Dr Dong Zhiming	Rock Hammer	Headlamp	Left Handed	Auburn Brown	Loud Whistle
Dr Jack Horner	Rock Hammer	GPS Tracker	Left Handed	Dusty Black	Water Splash
Dr Phil Currie	Hand Scanner	Duster	Right Handed	Auburn Brown	Bright Flash
Dr Alan Grant	Brush Kit	Headlamp	Left Handed	Auburn Brown	Water Splash
Dr Nizar Ibrahim	Hand Scanner	Duster	Left Handed	Sandy Blond	Loud Whistle
Dr Lindsay Zanno	Rock Hammer	Duster	Left Handed	Auburn Brown	Water Splash
Dr Richard Owen	Pickaxe	Headlamp	Left Handed	Sandy Blond	Water Splash
Dr Rodolfo Coria	Chisel Set	Magnifier	Left Handed	Dusty Black	Loud Whistle
Dr Thomas Holtz	Chisel Set	Headlamp	Left Handed	Sandy Blond	Water Splash
Dr Steve Brusatte	Rock Hammer	Magnifier	Left Handed	Auburn Brown	Water Splash
Dr Robert Bakker	Rock Hammer	Drone Cam	Left Handed	Dusty Black	Bright Flash
Dr Paul Sereno	Pickaxe	Drone Cam	Right Handed	Auburn Brown	Bright Flash

CLUE 1

Multiplication facts (1-12)

You inspect the dig site supply grid where fossil crates are stacked in equal rows across the excavation tents.

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

T																T
20	121	15	32	56	70	70	49	56	30	5	99	15	9	30	99	20
14	9	15	49	5	14	9	20	15	8							

$2 \times 10 = \square \rightarrow \boxed{\text{T}}$

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

$1 \times 8 = \square \rightarrow \boxed{\text{R}}$

$7 \times 10 = \square \rightarrow \boxed{\text{L}}$

$7 \times 7 = \square \rightarrow \boxed{\text{A}}$

$3 \times 3 = \square \rightarrow \boxed{\text{S}}$

$3 \times 5 = \square \rightarrow \boxed{\text{E}}$

$4 \times 8 = \square \rightarrow \boxed{\text{V}}$

$1 \times 5 = \square \rightarrow \boxed{\text{D}}$

$11 \times 9 = \square \rightarrow \boxed{\text{O}}$

$2 \times 7 = \square \rightarrow \boxed{\text{U}}$

$6 \times 5 = \square \rightarrow \boxed{\text{N}}$

$7 \times 8 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

CLUE 2

So

Row 1: 20, 29, 19, 12, 7, 10, 10, 17, 7, 9, 29, 19, 10, 26, 20, 29, 19

Row 2: 20, 4, 4, 10, 7, 9, 20, 29, 19, 7, 11, 10, 19, 31, 20, 29, 17, 9, 26

$$1/6 \text{ of } 114 = \boxed{} \rightarrow \boxed{\text{E}}$$

Scr

CLUE 3
Order of operations

Analyzing the field sensor logs requires evaluating multistep equations to uncover hidden coordinates.

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

T													T						
65	7	44	40	11	50	50	73	11	19	51	73	53	53	65	62	15	15	44	79
						T													
10	32	73	51	73	65	44	64	53	15	50	73	53	7						

$50 + 3 \times 5 = \boxed{} \rightarrow \boxed{\text{T}}$

$45 + 4 \times 2 = \boxed{} \rightarrow \boxed{\text{S}}$

$17 + 3 \times 9 = \boxed{} \rightarrow \boxed{\text{E}}$

$1 + 2 \times 3 = \boxed{} \rightarrow \boxed{\text{H}}$

$11 \times 6 - 4 = \boxed{} \rightarrow \boxed{\text{O}}$

$30 + 5 \times 2 = \boxed{} \rightarrow \boxed{\text{V}}$

$1 + 2 \times 7 = \boxed{} \rightarrow \boxed{\text{P}}$

$9 \times 8 - 22 = \boxed{} \rightarrow \boxed{\text{L}}$

$7 \times 12 - 20 = \boxed{} \rightarrow \boxed{\text{R}}$

$1 + 2 \times 5 = \boxed{} \rightarrow \boxed{\text{I}}$

$3 + 8 \times 6 = \boxed{} \rightarrow \boxed{\text{W}}$

$48 + 5 \times 5 = \boxed{} \rightarrow \boxed{\text{A}}$

$4 + 5 \times 3 = \boxed{} \rightarrow \boxed{\text{N}}$

$24 + 4 \times 2 = \boxed{} \rightarrow \boxed{\text{Y}}$

$7 + 9 \times 8 = \boxed{} \rightarrow \boxed{\text{D}}$

$1 + 3 \times 3 = \boxed{} \rightarrow \boxed{\text{B}}$

Scratch space:

CLUE 4 Rounding

The digital fossil scanner displays rough mass estimates that need to be rounded to the nearest hundred kilograms.

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

A													A				A	
2000	3000	70	3000	30	300	70	30	430	290	300	500	2000	170	30	290	2000	1700	
								A										
50	430	3000	300	3700	300	2300	2000	30	370	500	2300	50	430	1700	1700	170	1100	

Round 1,793 to the nearest thousand → **A**

Round 335 to the nearest hundred → **N**

Round 294 to the nearest ten → **W**

Round 2,340 to the nearest hundred → **E**

Round 369 to the nearest ten → **T**

Round 433 to the nearest ten → **O**

Round 537 to the nearest hundred → **H**

Round 48 to the nearest ten → **F**

Round 1,092 to the nearest hundred → **L**

Round 34 to the nearest ten → **R**

Round 3,673 to the nearest hundred → **D**

Round 174 to the nearest ten → **I**

Round 3,494 to the nearest thousand → **U**

Round 73 to the nearest ten → **B**

Round 1,731 to the nearest hundred → **S**

Scratch space:

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

You sort the recovered bone fragments by dividing them equally into labeled specimen containers.

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:

$54 \div 6 = \boxed{}$

$33 \div 11 = \boxed{}$

$1 \div 1 = \boxed{}$

$50 \div 10 = \boxed{}$

$35 \div 5 = \boxed{}$

$88 \div 8 = \boxed{}$

$96 \div 8 = \boxed{}$

$24 \div 4 = \boxed{}$

$20 \div 5 = \boxed{}$

$56 \div 7 = \boxed{}$

$22 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swept using a brush kit, then tracked location using a gps tracker.
2. The villain chipped away with a chisel set, then tracked location using a gps tracker.
3. The villain swept using a brush kit, then shone a headlamp.
4. The villain swung a pickaxe, then shone a headlamp.
5. The villain swung a pickaxe, then examined through a magnifier.
6. The villain chipped away with a chisel set, then flew a drone cam.
7. The villain swung a pickaxe, then dusted with a duster.
8. The villain tapped with a rock hammer, then tracked location using a gps tracker.
9. The villain chipped away with a chisel set, then examined through a magnifier.
10. The villain tapped with a rock hammer, then examined through a magnifier.
11. The villain scanned with a hand scanner, then shone a headlamp.
12. The villain chipped away with a chisel set, then shone a headlamp.

Answer Key

The Fossil Ridge Heist

Culprit: Dr Steve Brusatte

Rock Hammer · Magnifier · Left Handed · Auburn Brown · Water Splash

Trail: Start 21 → Clue 1 16 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

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

$2 \times 10 = 20$ (T) · $11 \times 11 = 121$ (H) · $1 \times 8 = 8$ (R) · $7 \times 10 = 70$ (L) · $7 \times 7 = 49$ (A) · $3 \times 3 = 9$ (S) · $3 \times 5 = 15$ (E) · $4 \times 8 = 32$ (V) · $1 \times 5 = 5$ (D) · $11 \times 9 = 99$ (O) · $2 \times 7 = 14$ (U) · $6 \times 5 = 30$ (N) · $7 \times 8 = 56$ (I)

Clue 2 (Fractions of a number): "THE VILLAIN HELD THE TOOL IN THEIR LEFT HAND"

$\frac{1}{3}$ of 60 = 20 (T) · $\frac{1}{3}$ of 12 = 4 (O) · $\frac{1}{5}$ of 155 = 31 (F) · $\frac{2}{10}$ of 60 = 12 (V) · $\frac{5}{6}$ of 12 = 10 (L) · $\frac{5}{10}$ of 18 = 9 (N) · $\frac{1}{3}$ of 51 = 17 (A) · $\frac{1}{8}$ of 56 = 7 (I) · $\frac{1}{6}$ of 156 = 26 (D) · $\frac{4}{8}$ of 58 = 29 (H) · $\frac{1}{2}$ of 22 = 11 (R) · $\frac{1}{6}$ of 114 = 19 (E)

Clue 3 (Order of operations): "THE VILLAIN WAS STOPPED BY A WATER SPLASH"

$50 + 3 \times 5 = 65$ (T) · $45 + 4 \times 2 = 53$ (S) · $17 + 3 \times 9 = 44$ (E) · $1 + 2 \times 3 = 7$ (H) · $11 \times 6 - 4 = 62$ (O) · $30 + 5 \times 2 = 40$ (V) · $1 + 2 \times 7 = 15$ (P) · $9 \times 8 - 22 = 50$ (L) · $7 \times 12 - 20 = 64$ (R) · $1 + 2 \times 5 = 11$ (I) · $3 + 8 \times 6 = 51$ (W) · $48 + 5 \times 5 = 73$ (A) · $4 + 5 \times 3 = 19$ (N) · $24 + 4 \times 2 = 32$ (Y) · $7 + 9 \times 8 = 79$ (D) · $1 + 3 \times 3 = 10$ (B)

Clue 4 (Rounding): "AUBURN BROWN HAIR WAS FOUND NEAR THE FOSSIL"

Round 1,793 to the nearest thousand = 2000 (A) · Round 335 to the nearest hundred = 300 (N) · Round 294 to the nearest ten = 290 (W) · Round 2,340 to the nearest hundred = 2300 (E) · Round 369 to the nearest ten = 370 (T) · Round 433 to the nearest ten = 430 (O) · Round 537 to the nearest hundred = 500 (H) · Round 48 to the nearest ten = 50 (F) · Round 1,092 to the nearest hundred = 1100 (L) · Round 34 to the nearest ten = 30 (R) · Round 3,673 to the nearest hundred = 3700 (D) · Round 174 to the nearest ten = 170 (I) · Round 3,494 to the nearest thousand = 3000 (U) · Round 73 to the nearest ten = 70 (B) · Round 1,731 to the nearest hundred = 1700 (S)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Dr Steve Brusatte

$54 \div 6 = 9$ · $33 \div 11 = 3$ · $1 \div 1 = 1$ · $50 \div 10 = 5$ · $35 \div 5 = 7$ · $88 \div 8 = 11$ · $96 \div 8 = 12$ · $24 \div 4 = 6$ · $20 \div 5 = 4$ · $56 \div 7 = 8$ · $22 \div 11 = 2$