



The Mesozoic Valley Fossil Mystery

Grade 4 math · Multiplication, Skip counting, Fractions of a number, Rounding, Division · Reading level grades 3-4

Detective: _____ Date: _____

A rare glowing T-Rex egg fossil was taken from the dig site overnight! Solve the clues to reveal the culprit before they escape the valley.

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 ABILITY	DIG GEAR	DOMINANT HAND	HEADWEAR	DEFENSE WEAKNESS
Ranger Sam	T Rex Strength	Fossil Scanner	Left Handed	Blue Cap	Cold Spray
Scout Penny	Tri Shield	Mud Boots	Right Handed	Blue Cap	Loud Whistle
Scientist Sally	Raptor Speed	Fossil Scanner	Right Handed	Blue Cap	Cold Spray
Alan Grant	Ptero Glider	Fossil Scanner	Left Handed	Red Helmet	Bright Flash
Digging Doug	Raptor Speed	Bone Whistle	Right Handed	Blue Cap	Cold Spray
Ian Malcolm	Ptero Glider	Rock Pick	Right Handed	Red Helmet	Cold Spray
Fossil Frank	Raptor Speed	Fossil Scanner	Right Handed	Blue Cap	Bright Flash
Explorer Emma	Raptor Speed	Fossil Scanner	Right Handed	Green Visor	Loud Whistle
Excavator Eva	Tri Shield	Mud Boots	Right Handed	Red Helmet	Bright Flash
Maya Stone	Stego Armor	Amber Lens	Right Handed	Green Visor	Bright Flash
Claire Dearing	Ptero Glider	Bone Whistle	Right Handed	Green Visor	Cold Spray
Ranger Bob	Stego Armor	Mud Boots	Left Handed	Red Helmet	Cold Spray
Surveyor Sue	Stego Armor	Amber Lens	Right Handed	Green Visor	Cold Spray
Tracker Tim	T Rex Strength	Mud Boots	Right Handed	Green Visor	Loud Whistle
Ranger Roy	Tri Shield	Bone Whistle	Right Handed	Green Visor	Cold Spray
Owen Grady	T Rex Strength	Mud Boots	Right Handed	Blue Cap	Cold Spray
Dr Jack	Tri Shield	Bone Whistle	Left Handed	Red Helmet	Bright Flash
Hunter Hank	Ptero Glider	Amber Lens	Right Handed	Blue Cap	Cold Spray
Dino Dan	Stego Armor	Amber Lens	Right Handed	Blue Cap	Cold Spray
Rex Tracker	T Rex Strength	Rock Pick	Right Handed	Red Helmet	Bright Flash
Ellie Sattler	Ptero Glider	Rock Pick	Left Handed	Green Visor	Cold Spray

CLUE 1

Multiplication facts (1-12)

We need to count how many dinosaur footprints were found near the campsite.

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

T																			
72	100	66	10	60	66	7	8	99	72	100	15	66	1	4	15	4			
		T																	
60	54	72	70	10	66	7	30	54	60	66	64	100	15	10	72	84	66		

$9 \times 8 = \square \rightarrow \boxed{\text{T}}$

$3 \times 10 = \square \rightarrow \boxed{\text{B}}$

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

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

$9 \times 6 = \square \rightarrow \boxed{\text{O}}$

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

$11 \times 6 = \square \rightarrow \boxed{\text{E}}$

$5 \times 12 = \square \rightarrow \boxed{\text{N}}$

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

$5 \times 2 = \square \rightarrow \boxed{\text{S}}$

$8 \times 8 = \square \rightarrow \boxed{\text{W}}$

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

$1 \times 7 = \square \rightarrow \boxed{\text{A}}$

$1 \times 1 = \square \rightarrow \boxed{\text{F}}$

$7 \times 12 = \square \rightarrow \boxed{\text{L}}$

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

Scratch space:

CLUE 2 Skip counting

To track the thief we follow the glowing trail markers spaced along the ridge.

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

A									A		A					
130	33	15	25	55	6	39	39	39	130	33	130	22	15	16	27	25
	A											A				
27	130	55	24	6	24	39	35	140	80	25	21	6	130	90	6	

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 → **A**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 → **V**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **T**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **R**

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **E**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 → **N**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **G**

Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 → **I**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, __, 42, 45 → **S**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **W**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 → **D**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 → **C**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **L**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **O**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 → **U**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **H**

Scratch space:

CLUE 3
Fractions of a number

The paleontology team checked a fraction of the missing fossil crates.

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

T 21	27	26	T 21	27	13	26	38	32	37	14	14	T 21	24	29	29	26	16
10	6	18	24	25	16	14	29	3	37	6							

$3/6 \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{T}}$

$1/4 \text{ of } 40 = \boxed{} \rightarrow \boxed{\text{B}}$

$1/2 \text{ of } 28 = \boxed{} \rightarrow \boxed{\text{S}}$

$2/8 \text{ of } 64 = \boxed{} \rightarrow \boxed{\text{D}}$

$3/6 \text{ of } 12 = \boxed{} \rightarrow \boxed{\text{Y}}$

$2/4 \text{ of } 74 = \boxed{} \rightarrow \boxed{\text{A}}$

$5/10 \text{ of } 6 = \boxed{} \rightarrow \boxed{\text{R}}$

$2/3 \text{ of } 57 = \boxed{} \rightarrow \boxed{\text{F}}$

$2/6 \text{ of } 75 = \boxed{} \rightarrow \boxed{\text{L}}$

$1/2 \text{ of } 36 = \boxed{} \rightarrow \boxed{\text{C}}$

$2/4 \text{ of } 58 = \boxed{} \rightarrow \boxed{\text{P}}$

$3/8 \text{ of } 72 = \boxed{} \rightarrow \boxed{\text{H}}$

$2/8 \text{ of } 96 = \boxed{} \rightarrow \boxed{\text{O}}$

$2/4 \text{ of } 26 = \boxed{} \rightarrow \boxed{\text{I}}$

$2/4 \text{ of } 52 = \boxed{} \rightarrow \boxed{\text{E}}$

$1/2 \text{ of } 64 = \boxed{} \rightarrow \boxed{\text{W}}$

Scratch space:

CLUE 4
Rounding

The digital radar scanner shows an estimate rounded to the nearest ten.

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

T			T													
500	300	30	500	300	170	30	20	700	3000	110	1300	1300	30	700	2000	
												T				
3700	4300	1700	30	50	2000	1300	430	30	2000	3000	500	3000	2000	170	4300	

Round 526 to the nearest hundred → **T**

Round 3,676 to the nearest hundred → **B**

Round 271 to the nearest hundred → **H**

Round 173 to the nearest ten → **I**

Round 31 to the nearest ten → **E**

Round 1,979 to the nearest thousand → **A**

Round 429 to the nearest ten → **N**

Round 112 to the nearest ten → **O**

Round 2,942 to the nearest thousand → **R**

Round 1,661 to the nearest hundred → **U**

Round 1,330 to the nearest hundred → **P**

Round 675 to the nearest hundred → **D**

Round 16 to the nearest ten → **F**

Round 4,340 to the nearest hundred → **L**

Round 48 to the nearest ten → **C**

Scratch space:

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

We divide the search grid equally among all the camp rangers.

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:

$90 \div 9 = \boxed{}$

$60 \div 12 = \boxed{}$

$11 \div 1 = \boxed{}$

$80 \div 10 = \boxed{}$

$12 \div 1 = \boxed{}$

$90 \div 10 = \boxed{}$

$6 \div 3 = \boxed{}$

$12 \div 3 = \boxed{}$

$30 \div 5 = \boxed{}$

$12 \div 4 = \boxed{}$

$11 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blocked the path with stego armor, then marched through mud in mud boots.
2. The villain dashed away using raptor speed, then spotted clues through an amber lens.
3. The villain defended the camp with a tri shield, then chipped rock with a rock pick.
4. The villain defended the camp with a tri shield, then checked the ground with a fossil scanner.
5. The villain smashed the gate with t rex strength, then marched through mud in mud boots.
6. The villain smashed the gate with t rex strength, then chipped rock with a rock pick.
7. The villain blocked the path with stego armor, then spotted clues through an amber lens.
8. The villain flew off on a ptero glider, then marched through mud in mud boots.
9. The villain defended the camp with a tri shield, then spotted clues through an amber lens.
10. The villain flew off on a ptero glider, then spotted clues through an amber lens.
11. The villain dashed away using raptor speed, then checked the ground with a fossil scanner.
12. The villain dashed away using raptor speed, then blew hard into a bone whistle.

Answer Key

The Mesozoic Valley Fossil Mystery

Culprit: Dino Dan

Stego Armor · Amber Lens · Right Handed · Blue Cap · Cold Spray

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SNEAKY THIEF DID NOT USE A BONE WHISTLE"

$9 \times 8 = 72$ (T) · $3 \times 10 = 30$ (B) · $9 \times 11 = 99$ (Y) · $7 \times 10 = 70$ (U) · $9 \times 6 = 54$ (O) · $10 \times 10 = 100$ (H) · $11 \times 6 = 66$ (E) · $5 \times 12 = 60$ (N) · $2 \times 2 = 4$ (D) · $5 \times 2 = 10$ (S) · $8 \times 8 = 64$ (W) · $8 \times 1 = 8$ (K) · $1 \times 7 = 7$ (A) · $1 \times 1 = 1$ (F) · $7 \times 12 = 84$ (L) · $5 \times 3 = 15$ (I)

Clue 2 (Skip counting): "A WITNESS SAW A RIGHT HANDED SCOUT LEAVE"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 = 90 (V) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (T) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (R) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (E) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 = 55 (N) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (G) · Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 = 15 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, __, 42, 45 = 39 (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (D) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 = 35 (C) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (U) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (H)

Clue 3 (Fractions of a number): "THE THIEF WAS STOPPED BY COLD SPRAY"

$\frac{3}{6}$ of 42 = 21 (T) · $\frac{1}{4}$ of 40 = 10 (B) · $\frac{1}{2}$ of 28 = 14 (S) · $\frac{2}{8}$ of 64 = 16 (D) · $\frac{3}{6}$ of 12 = 6 (Y) · $\frac{2}{4}$ of 74 = 37 (A) · $\frac{5}{10}$ of 6 = 3 (R) · $\frac{2}{3}$ of 57 = 38 (F) · $\frac{2}{6}$ of 75 = 25 (L) · $\frac{1}{2}$ of 36 = 18 (C) · $\frac{2}{4}$ of 58 = 29 (P) · $\frac{3}{8}$ of 72 = 27 (H) · $\frac{2}{8}$ of 96 = 24 (O) · $\frac{2}{4}$ of 26 = 13 (I) · $\frac{2}{4}$ of 52 = 26 (E) · $\frac{1}{2}$ of 64 = 32 (W)

Clue 4 (Rounding): "THE THIEF DROPPED A BLUE CAP NEAR TRAIL"

Round 526 to the nearest hundred = 500 (T) · Round 3,676 to the nearest hundred = 3700 (B) · Round 271 to the nearest hundred = 300 (H) · Round 173 to the nearest ten = 170 (I) · Round 31 to the nearest ten = 30 (E) · Round 1,979 to the nearest thousand = 2000 (A) · Round 429 to the nearest ten = 430 (N) · Round 112 to the nearest ten = 110 (O) · Round 2,942 to the nearest thousand = 3000 (R) · Round 1,661 to the nearest hundred = 1700 (U) · Round 1,330 to the nearest hundred = 1300 (P) · Round 675 to the nearest hundred = 700 (D) · Round 16 to the nearest ten = 20 (F) · Round 4,340 to the nearest hundred = 4300 (L) · Round 48 to the nearest ten = 50 (C)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Dino Dan

$90 \div 9 = 10$ · $60 \div 12 = 5$ · $11 \div 1 = 11$ · $80 \div 10 = 8$ · $12 \div 1 = 12$ · $90 \div 10 = 9$ · $6 \div 3 = 2$ · $12 \div 3 = 4$ · $30 \div 5 = 6$ · $12 \div 4 = 3$ · $11 \div 11 = 1$