



The Mystery of the Golden Fossil

Grade 4 math · Place value, Addition, Subtraction, Multiplication, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

A rare golden dinosaur egg went missing from the Pangea Park Fossil Pit! The Head Paleontologist saw a mysterious ranger sneak out into the canyon. Check the clues, solve the math, and find out who took the egg!

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	FOSSIL GEAR	DINO COMPANION	DOMINANT HAND	HAIRSTYLE	DEFENSE ITEM
Ranger Grant	Bone Digger	T-Rex	Right handed brush	Slick Black Hair	Mud Squirter
Ranger Santos	Lava Launcher	Stegosaurus	Left handed brush	Spiky Red Hair	Mud Squirter
Ranger Kayla	Sonic Roarer	Stegosaurus	Left handed brush	Braided Brown Hair	Dino Rattle
Ranger Ned	Jet Glider	Pterodactyl	Left handed brush	Slick Black Hair	Dino Rattle
Ranger Mary	Jet Glider	Stegosaurus	Left handed brush	Slick Black Hair	Mud Squirter
Ranger Harding	Sonic Roarer	Stegosaurus	Right handed brush	Spiky Red Hair	Flashlight
Ranger Sattler	Lava Launcher	Triceratops	Left handed brush	Braided Brown Hair	Mud Squirter
Ranger Tim	Sonic Roarer	Triceratops	Right handed brush	Spiky Red Hair	Dino Rattle
Ranger Zia	Bone Digger	T-Rex	Left handed brush	Braided Brown Hair	Mud Squirter
Ranger Sarah	Bone Digger	Raptor	Left handed brush	Spiky Red Hair	Dino Rattle
Ranger Ellie	Sonic Roarer	Triceratops	Left handed brush	Spiky Red Hair	Mud Squirter
Ranger Maisie	Jet Glider	Pterodactyl	Left handed brush	Spiky Red Hair	Flashlight
Ranger Ian	Lava Launcher	Pterodactyl	Left handed brush	Slick Black Hair	Flashlight
Ranger Wu	Amber Scanner	T-Rex	Left handed brush	Spiky Red Hair	Mud Squirter
Ranger Webb	Lava Launcher	Raptor	Left handed brush	Spiky Red Hair	Mud Squirter
Ranger Owen	Amber Scanner	Stegosaurus	Right handed brush	Spiky Red Hair	Mud Squirter
Ranger Lex	Bone Digger	Triceratops	Right handed brush	Slick Black Hair	Flashlight
Ranger Marsh	Bone Digger	Stegosaurus	Right handed brush	Slick Black Hair	Dino Rattle
Ranger Alan	Lava Launcher	Raptor	Right handed brush	Spiky Red Hair	Mud Squirter
Ranger Ramsay	Bone Digger	Pterodactyl	Right handed brush	Braided Brown Hair	Dino Rattle
Ranger Gennaro	Amber Scanner	Pterodactyl	Left handed brush	Spiky Red Hair	Mud Squirter

CLUE 1 Place value

The lab scanner displays the fossil grid coordinates using digits and place values.

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

T																T
70	60	900	200	90	1000	1000	400	90	100	20	4000	900	3000	100	4000	70
					T							T				
800	90	20	900	400	70	800	90	50	900	800	400	70	4000	2000	3000	

What is the value of the 7 in 470? → **T**

What is the value of the 1 in 1,703? → **L**

What is the value of the 3 in 13,752? → **S**

What is the value of the 4 in 4,736? → **O**

What is the value of the 5 in 151? → **C**

What is the value of the 2 in 62,699? → **P**

What is the value of the 1 in 197? → **N**

What is the value of the 4 in 6,430? → **A**

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

What is the value of the 9 in 390? → **I**

What is the value of the 6 in 460? → **H**

What is the value of the 2 in 6,261? → **V**

What is the value of the 8 in 3,856? → **R**

What is the value of the 9 in 916? → **E**

Scratch space:

CLUE 2 Addition

Ranger Sam tallied up all the extra canteen supplies collected at the dig site.

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

L																			
8302	4035	5933	7924	5397	2397	3339	7973	4035	7973	9834	2791	3116	3669	5397	5905	2397	2791	6115	3669

8656	3339	7973	3116	3669	7924

5482 + 2820 = → L	2568 + 2829 = → H	1676 + 721 = → A
4577 + 5257 = → B	1835 + 1834 = → S	1671 + 2364 = → E
1354 + 1762 = → U	3060 + 5596 = → I	5215 + 2709 = → T
2184 + 3721 = → M	972 + 1819 = → R	3067 + 3048 = → K
3872 + 2061 = → F	2744 + 5229 = → D	2277 + 1062 = → N

Scratch space:

Subtraction

The paleontology team subtracted broken tools from the master crate inventory.

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

7756 5868 6895 8925 8358 1999 8407 5204 7540 6895 5204 7756 1999 4776 6176 6176 8407 5204

1999 4523 8407 1735 8925 4526 4526 8962 8925 8459

$$9157 - 1401 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$9143 - 3275 = \boxed{} \rightarrow \boxed{\text{Q}}$$

$9004 - 2828 = \boxed{} \rightarrow \boxed{\text{P}}$

$$8778 - 1883 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4957 - 3222 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$7313 - 2790 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$7532 - 2756 = \boxed{} \rightarrow \boxed{0}$$

$$2386 - 387 = \boxed{} \rightarrow \boxed{\text{T}}$$

10234 - 1775 = → **N**

$$12439 - 4081 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$10607 - 3067 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$7879 - 2675 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$9990 - 1028 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$7650 - 3124 = \boxed{} \rightarrow \boxed{\text{L}}$

$11531 - 2606 = \boxed{} \rightarrow \boxed{}$

$10857 - 2450 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The search party organized fossil brushes into equal rows across the camp tables.

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

S																		
60	63	72	49	33	12	16	48	100	22	72	12	14	42	11	21	48	42	21

			S	S		
22	14	42	60	60	72	30

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

$6 \times 7 = \square \rightarrow \boxed{\text{O}}$

$4 \times 12 = \square \rightarrow \boxed{\text{D}}$

$2 \times 8 = \square \rightarrow \boxed{\text{E}}$

$11 \times 1 = \square \rightarrow \boxed{\text{U}}$

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

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

$3 \times 4 = \square \rightarrow \boxed{\text{R}}$

$7 \times 9 = \square \rightarrow \boxed{\text{P}}$

$2 \times 11 = \square \rightarrow \boxed{\text{A}}$

$7 \times 3 = \square \rightarrow \boxed{\text{N}}$

$3 \times 11 = \square \rightarrow \boxed{\text{Y}}$

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

$6 \times 12 = \square \rightarrow \boxed{\text{I}}$

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

Scratch space:

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

The chief divided the remaining trail maps equally among the rescue teams.

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:

$11 \div 1 = \boxed{}$

$12 \div 6 = \boxed{}$

$60 \div 10 = \boxed{}$

$50 \div 10 = \boxed{}$

$96 \div 8 = \boxed{}$

$84 \div 12 = \boxed{}$

$16 \div 4 = \boxed{}$

$99 \div 11 = \boxed{}$

$72 \div 9 = \boxed{}$

$11 \div 11 = \boxed{}$

$3 \div 1 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain soared overhead on the jet glider, then fled high above on a pterodactyl.
2. The villain melted dirt using the lava launcher, then guarded the cave with a stegosaurus.
3. The villain soared overhead on the jet glider, then guarded the cave with a stegosaurus.
4. The villain melted dirt using the lava launcher, then fled high above on a pterodactyl.
5. The villain dug deep trenches with the bone digger, then guarded the cave with a stegosaurus.
6. The villain melted dirt using the lava launcher, then snuck away with a loyal raptor.
7. The villain scanned the dig site with amber rays, then trampled tracks with a triceratops.
8. The villain blasted rocks with sonic roars, then guarded the cave with a stegosaurus.
9. The villain soared overhead on the jet glider, then snuck away with a loyal raptor.
10. The villain scanned the dig site with amber rays, then stole fossils beside a giant trex.
11. The villain scanned the dig site with amber rays, then fled high above on a pterodactyl.
12. The villain dug deep trenches with the bone digger, then stole fossils beside a giant trex.

Answer Key

The Mystery of the Golden Fossil

Culprit: Ranger Wu

Amber Scanner · T-Rex · Left handed brush · Spiky Red Hair · Mud Squirter

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

Clue 1 (Place value): "THE VILLAIN DOES NOT RIDE A TRICERATOPS"

What is the value of the 7 in 470? = 70 (T) · What is the value of the 1 in 1,703? = 1000 (L) · What is the value of the 3 in 13,752? = 3000 (S) · What is the value of the 4 in 4,736? = 4000 (O) · What is the value of the 5 in 151? = 50 (C) · What is the value of the 2 in 62,699? = 2000 (P) · What is the value of the 1 in 197? = 100 (N) · What is the value of the 4 in 6,430? = 400 (A) · What is the value of the 2 in 727? = 20 (D) · What is the value of the 9 in 390? = 90 (I) · What is the value of the 6 in 460? = 60 (H) · What is the value of the 2 in 6,261? = 200 (V) · What is the value of the 8 in 3,856? = 800 (R) · What is the value of the 9 in 916? = 900 (E)

Clue 2 (Addition): "LEFT HANDED BRUSH MARKS IN DUST"

5482 + 2820 = 8302 (L) · 2568 + 2829 = 5397 (H) · 1676 + 721 = 2397 (A) · 4577 + 5257 = 9834 (B) · 1835 + 1834 = 3669 (S) · 1671 + 2364 = 4035 (E) · 1354 + 1762 = 3116 (U) · 3060 + 5596 = 8656 (I) · 5215 + 2709 = 7924 (T) · 2184 + 3721 = 5905 (M) · 972 + 1819 = 2791 (R) · 3067 + 3048 = 6115 (K) · 3872 + 2061 = 5933 (F) · 2744 + 5229 = 7973 (D) · 2277 + 1062 = 3339 (N)

Clue 3 (Subtraction): "SQUIRTED MUD STOPPED THE VILLAIN"

9157 - 1401 = 7756 (S) · 9143 - 3275 = 5868 (Q) · 9004 - 2828 = 6176 (P) · 8778 - 1883 = 6895 (U) · 4957 - 3222 = 1735 (V) · 7313 - 2790 = 4523 (H) · 7532 - 2756 = 4776 (O) · 2386 - 387 = 1999 (T) · 10234 - 1775 = 8459 (N) · 12439 - 4081 = 8358 (R) · 10607 - 3067 = 7540 (M) · 7879 - 2675 = 5204 (D) · 9990 - 1028 = 8962 (A) · 7650 - 3124 = 4526 (L) · 11531 - 2606 = 8925 (I) · 10857 - 2450 = 8407 (E)

Clue 4 (Multiplication facts (1-12)): "SPIKY RED HAIR FOUND ON A FOSSIL"

12 × 5 = 60 (S) · 6 × 7 = 42 (O) · 4 × 12 = 48 (D) · 2 × 8 = 16 (E) · 11 × 1 = 11 (U) · 2 × 7 = 14 (F) · 7 × 7 = 49 (K) · 3 × 4 = 12 (R) · 7 × 9 = 63 (P) · 2 × 11 = 22 (A) · 7 × 3 = 21 (N) · 3 × 11 = 33 (Y) · 10 × 10 = 100 (H) · 6 × 12 = 72 (I) · 3 × 10 = 30 (L)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Ranger Wu

11 ÷ 1 = 11 · 12 ÷ 6 = 2 · 60 ÷ 10 = 6 · 50 ÷ 10 = 5 · 96 ÷ 8 = 12 · 84 ÷ 12 = 7 · 16 ÷ 4 = 4 · 99 ÷ 11 = 9 · 72 ÷ 9 = 8 · 11 ÷ 11 = 1 · 3 ÷ 1 = 3