



The Sandy Flats Sandbox Mystery

Grade 3 math · Multiplication, Rounding, Word problems, Addition, Division · Reading level grades 1-2

Detective: _____ Date: _____

Oh no! The Golden Shovel is gone from the big sandbox. Someone dug a deep secret tunnel and took it! We must find the sneaky kid who did this. Grab your buckets and let us look for clues!

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 Tunnel Sneak is _____

Possible suspects

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

NAME	DIGGING TOOL	SAFETY GEAR	DIGGER HAND	TUNNEL HAIR	TUNNEL BLOCKER
Alan Collingwood	Metal spade	Safety goggles	Left-handed digger	Sandy hair	Sieve of sand
Goldie Digger	Metal spade	Safety goggles	Right-handed digger	Muddy black hair	Wooden board
Toby Tunnel	Hand claws	Knee pads	Left-handed digger	Sandy hair	Sieve of sand
Danny Dirt	Metal spade	Work gloves	Left-handed digger	Dusty brown hair	Wooden board
Penny Pocket	Garden trowel	Work gloves	Left-handed digger	Muddy black hair	Sieve of sand
Gemma Finder	Garden trowel	Knee pads	Right-handed digger	Sandy hair	Wooden board
Rocky Stone	Hand claws	Safety goggles	Left-handed digger	Muddy black hair	Water bucket
Rex Washburn	Plastic shovel	Mud boots	Left-handed digger	Muddy black hair	Sieve of sand
Dusty Miller	Metal spade	Knee pads	Left-handed digger	Dusty brown hair	Sieve of sand
Theodore Johnson	Metal spade	Knee pads	Right-handed digger	Muddy black hair	Sieve of sand
Hector Zeroni	Hand claws	Yellow hardhat	Right-handed digger	Muddy black hair	Sieve of sand
Clay Pitman	Metal spade	Safety goggles	Right-handed digger	Muddy black hair	Sieve of sand
Molly Mole	Hand claws	Yellow hardhat	Left-handed digger	Muddy black hair	Water bucket
Sammy Scoop	Toy excavator	Knee pads	Left-handed digger	Muddy black hair	Sieve of sand
Sandy McSand	Toy excavator	Yellow hardhat	Left-handed digger	Muddy black hair	Sieve of sand
Sally Shovel	Toy excavator	Mud boots	Right-handed digger	Muddy black hair	Water bucket
Billy Burrow	Hand claws	Yellow hardhat	Left-handed digger	Muddy black hair	Sieve of sand
Wally Worm	Toy excavator	Work gloves	Left-handed digger	Sandy hair	Wooden board
Doug Deep	Hand claws	Knee pads	Right-handed digger	Sandy hair	Wooden board
Ricky Sellers	Toy excavator	Safety goggles	Left-handed digger	Muddy black hair	Wooden board
Stanley Yelnats	Garden trowel	Mud boots	Right-handed digger	Dusty brown hair	Wooden board

Multiplication facts (1-12)

We count the tool racks in the shed. There are three rows with five tools in each row. Let us multiply to find how many tools we have.

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

10 60 1 120 96 1 7 16 49 48 1 120 96 48 10 15

15 48 132 16 50 54 48 20 1 120

$$2 \times 5 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$10 \times 12 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$1 \times 1 = \boxed{} \rightarrow \mathbf{E}$$

$6 \times 10 = \boxed{} \rightarrow \boxed{\text{H}}$

$12 \times 11 = \boxed{} \rightarrow \boxed{\text{R}}$

$7 \times 7 = \square \rightarrow \boxed{\mathbf{D}}$

$$8 \times 6 = \boxed{} \rightarrow \boxed{0}$$

$$10 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$1 \times 7 = \boxed{} \rightarrow \mathbf{A}$

$10 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$5 \times 3 = \square \rightarrow \mathbf{W}$

$12 \times 8 = \boxed{} \rightarrow \boxed{\text{N}}$

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

$2 \times 8 = \square \rightarrow \mathbf{K}$

Scratch space:

CLUE 2 Rounding

The laser screen shows how deep the tunnel goes. It only shows a rough estimate. We must round the number to the nearest ten.

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

T						T													T
7000	4000	2000	70	30	60	7000	8000	30	900	2000	400	5000	40	900	2000	9000	7000		
20	9000	7000	4000	2000	4000	20	900	2000											

Round 6,933 to the nearest thousand → **T**

Round 7,725 to the nearest thousand → **P**

Round 4,456 to the nearest thousand → **H**

Round 69 to the nearest ten → **D**

Round 395 to the nearest hundred → **W**

Round 9,114 to the nearest thousand → **F**

Round 4,748 to the nearest thousand → **A**

Round 2,076 to the nearest thousand → **E**

Round 44 to the nearest ten → **S**

Round 16 to the nearest ten → **O**

Round 33 to the nearest ten → **I**

Round 872 to the nearest hundred → **L**

Round 61 to the nearest ten → **R**

Scratch space:

CLUE 3 Word problems

A friendly mole pops up to help us. He tells us a quick story about some lost coins to solve.

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

Someone scared the villain off with **S** **S** **N** **D**.

Sandy found 14 dirt clumps yesterday and 62 more today.
How many dirt clumps in all?

Answer: → **S**

There were 72 plastic shovels. 21 were used up. How many plastic shovels are left?

Answer: → **0**

Sandy lined up 4 rows of 4 toy worms. How many toy worms in all?

Answer: → **F**

There were 89 toy worms. 27 were used up. How many toy worms are left?

Answer: → **V**

There were 68 shiny pebbles. 19 were used up. How many shiny pebbles are left?

Answer: → **I**

Sandy found 58 shiny pebbles yesterday and 15 more today. How many shiny pebbles in all?

Answer: → **E**

There were 16 toy worms. 10 were used up. How many toy worms are left?

Answer: → **A**

Scratch space:

CLUE 4 Addition

We find two piles of loose dirt. Let us add the scoops together to see how much mud was dug up.

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

B																	
614	734	686	899	218	540	277	567	686	961	503	540	230	705	567	705	784	961

277	795	705	591	662	503

$396 + 218 = \square \rightarrow \text{B}$

$440 + 246 = \square \rightarrow \text{A}$

$609 + 290 = \square \rightarrow \text{C}$

$294 + 667 = \square \rightarrow \text{N}$

$159 + 71 = \square \rightarrow \text{W}$

$160 + 343 = \square \rightarrow \text{D}$

$496 + 288 = \square \rightarrow \text{I}$

$232 + 359 = \square \rightarrow \text{M}$

$127 + 150 = \square \rightarrow \text{T}$

$284 + 511 = \square \rightarrow \text{H}$

$352 + 215 = \square \rightarrow \text{R}$

$193 + 347 = \square \rightarrow \text{S}$

$473 + 232 = \square \rightarrow \text{E}$

$334 + 400 = \square \rightarrow \text{L}$

$299 + 363 = \square \rightarrow \text{U}$

$150 + 68 = \square \rightarrow \text{K}$

Scratch space:

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

We have twelve warning flags for the holes. We must divide them evenly among the big pits.

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:

$5 \div 5 = \boxed{}$

$77 \div 11 = \boxed{}$

$56 \div 7 = \boxed{}$

$60 \div 5 = \boxed{}$

$3 \div 1 = \boxed{}$

$35 \div 7 = \boxed{}$

$24 \div 6 = \boxed{}$

$44 \div 4 = \boxed{}$

$8 \div 4 = \boxed{}$

$80 \div 8 = \boxed{}$

$36 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain tunnels under the fence, then puts on a bright yellow hardhat.
2. The villain makes a giant crater, then straps on shiny black knee pads.
3. The villain makes a giant crater, then adjusts their plastic goggles.
4. The villain scrapes away the loose dirt, then pulls on some heavy work gloves.
5. The villain tunnels under the fence, then stomps around in muddy boots.
6. The villain scrapes away the loose dirt, then puts on a bright yellow hardhat.
7. The villain makes a giant crater, then puts on a bright yellow hardhat.
8. The villain tunnels under the fence, then straps on shiny black knee pads.
9. The villain digs a very deep hole, then stomps around in muddy boots.
10. The villain scrapes away the loose dirt, then adjusts their plastic goggles.
11. The villain digs a very deep hole, then puts on a bright yellow hardhat.
12. The villain scrapes away the loose dirt, then straps on shiny black knee pads.

Answer Key

The Sandy Flats Sandbox Mystery

Culprit: Rex Washburn

Plastic shovel · Mud boots · Left-handed digger · Muddy black hair · Sieve of sand

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SNEAK DOES NOT WEAR WORK GLOVES"

$2 \times 5 = 10$ (T) · $10 \times 12 = 120$ (S) · $1 \times 1 = 1$ (E) · $6 \times 10 = 60$ (H) · $12 \times 11 = 132$ (R) · $7 \times 7 = 49$ (D) · $8 \times 6 = 48$ (O) · $10 \times 2 = 20$ (V) · $1 \times 7 = 7$ (A) · $10 \times 5 = 50$ (G) · $5 \times 3 = 15$ (W) · $12 \times 8 = 96$ (N) · $6 \times 9 = 54$ (L) · $2 \times 8 = 16$ (K)

Clue 2 (Rounding): "THE DIRT PILE WAS LEFT OF THE HOLE"

Round 6,933 to the nearest thousand = 7000 (T) · Round 7,725 to the nearest thousand = 8000 (P) · Round 4,456 to the nearest thousand = 4000 (H) · Round 69 to the nearest ten = 70 (D) · Round 395 to the nearest hundred = 400 (W) · Round 9,114 to the nearest thousand = 9000 (F) · Round 4,748 to the nearest thousand = 5000 (A) · Round 2,076 to the nearest thousand = 2000 (E) · Round 44 to the nearest ten = 40 (S) · Round 16 to the nearest ten = 20 (O) · Round 33 to the nearest ten = 30 (I) · Round 872 to the nearest hundred = 900 (L) · Round 61 to the nearest ten = 60 (R)

Clue 3 (Word problems): "SIEVE OF SAND"

Sandy found 14 dirt clumps yesterday and 62 more today. How many dirt clumps in all? = 76 (S) · There were 72 plastic shovels. 21 were used up. How many plastic shovels are left? = 51 (O) · Sandy lined up 4 rows of 4 toy worms. How many toy worms in all? = 16 (F) · There were 89 toy worms. 27 were used up. How many toy worms are left? = 62 (V) · There were 68 shiny pebbles. 19 were used up. How many shiny pebbles are left? = 49 (I) · Sandy found 58 shiny pebbles yesterday and 15 more today. How many shiny pebbles in all? = 73 (E) · There were 16 toy worms. 10 were used up. How many toy worms are left? = 6 (A)

Clue 4 (Addition): "BLACK STRANDS WERE IN THE MUD"

$396 + 218 = 614$ (B) · $440 + 246 = 686$ (A) · $609 + 290 = 899$ (C) · $294 + 667 = 961$ (N) · $159 + 71 = 230$ (W) · $160 + 343 = 503$ (D) · $496 + 288 = 784$ (I) · $232 + 359 = 591$ (M) · $127 + 150 = 277$ (T) · $284 + 511 = 795$ (H) · $352 + 215 = 567$ (R) · $193 + 347 = 540$ (S) · $473 + 232 = 705$ (E) · $334 + 400 = 734$ (L) · $299 + 363 = 662$ (U) · $150 + 68 = 218$ (K)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Rex Washburn

$5 \div 5 = 1$ · $77 \div 11 = 7$ · $56 \div 7 = 8$ · $60 \div 5 = 12$ · $3 \div 1 = 3$ · $35 \div 7 = 5$ · $24 \div 6 = 4$ · $44 \div 4 = 11$ · $8 \div 4 = 2$ · $80 \div 8 = 10$ · $36 \div 6 = 6$