



The Secret of Whispering Vine Island

Grade 7 math · Place value, Skip counting, Rounding, Bar models, Two-step equations · Reading level grades 3-4

Detective: _____ Date: _____

The Chief Explorer's golden compass has vanished from the jungle camp! The Jungle Bandit sneaked in under the cover of night. Now, we must search the ancient ruins and track down 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 The Jungle Bandit is _____

Possible suspects

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

NAME	JUNGLE SKILL	CAMP GEAR	COMPASS SIDE	HEADWEAR	FEAR OR FLAW
Nathan	river rafting	rope tying	left-handed compass	blue safari helmet	scared of frogs
Indiana	cave diving	rope tying	right-handed compass	blue safari helmet	afraid of heights
Gemma	cave diving	animal whispering	right-handed compass	red explorer hat	scared of frogs
Toby	cave diving	animal whispering	right-handed compass	green camo bandana	allergic to pollen
Zoe	vine swinging	rope tying	right-handed compass	green camo bandana	allergic to pollen
Zack	river rafting	animal whispering	right-handed compass	blue safari helmet	afraid of heights
Maya	quick climbing	jungle camouflage	right-handed compass	green camo bandana	allergic to pollen
Claire	quick climbing	torch lighting	left-handed compass	green camo bandana	scared of frogs
Diego	river rafting	jungle camouflage	right-handed compass	green camo bandana	allergic to pollen
Finn	river rafting	torch lighting	right-handed compass	green camo bandana	allergic to pollen
Leo	map reading	torch lighting	left-handed compass	red explorer hat	afraid of heights
Skye	river rafting	animal whispering	right-handed compass	blue safari helmet	allergic to pollen
Alex	cave diving	animal whispering	right-handed compass	green camo bandana	scared of frogs
Chloe	river rafting	bridge building	left-handed compass	green camo bandana	allergic to pollen
Penny	river rafting	torch lighting	left-handed compass	red explorer hat	afraid of heights
Rusty	map reading	jungle camouflage	left-handed compass	blue safari helmet	allergic to pollen
Brooke	quick climbing	torch lighting	right-handed compass	blue safari helmet	afraid of heights
Sully	cave diving	jungle camouflage	right-handed compass	red explorer hat	allergic to pollen
Max	vine swinging	rope tying	right-handed compass	red explorer hat	allergic to pollen
Dora	vine swinging	jungle camouflage	right-handed compass	blue safari helmet	scared of frogs
Sam	cave diving	torch lighting	left-handed compass	blue safari helmet	scared of frogs

CLUE 1 Place value

We found a dusty digital lock on the temple door. The screen shows a number with the digit four in the tens place.

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

The diagram illustrates three different representations of the number 600 using place value blocks:

- Representation 1:** One hundred block labeled "T" and six ten blocks labeled "T". Below the blocks are the values 600, 800, 9000, 2000, 7000, 200, 50, 5000, and 600.
- Representation 2:** Six ten blocks labeled "T". Below the blocks are the values 50, 300, 9000, and 3000.
- Representation 3:** Six one blocks labeled "T". Below the blocks are the values 200, 300, 600, 70, 3000, and 9000.

What is the value of the 6 in 725,650? → **T**

What is the value of the 1 in 95,615? → **G**

What is the value of the 3 in 13,278? → **S**

What is the value of the 5 in 95,626? →

What is the value of the 7 in 158,479? → **U**

What is the value of the 3 in 791,538? → **P**

What is the value of the 2 in 32,799? → **B**

What is the value of the 2 in 700,274? → **N**

What is the value of the 6 in 26,938? → **Y**

What is the value of the 5 in 477,252? → **D**

What is the value of the 3 in 99,385? → ☐

What is the value of the 4 in 14,960? → **R**

What is the value of the 9 in 859,341? → **E**

What is the value of the 8 in 266,839? → **H**

What is the value of the 7 in 667,114? → **A**

Scratch space:

CLUE 2 Skip counting

To track the bandit, we count the muddy footprints leading into the swamp. They are spaced out in steady groups of seven.

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

T																			
120	40	80	16	26	90	18	110	70	70	130	110	70	33	36	26	18	18	80	33
		T							T										
26	15	120	40	80	36	50	39	40	120										

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 → **T**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 → **P**

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

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

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

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

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

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

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

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **O**

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **S**

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

Scratch space:

CLUE 3 Rounding

The camp radio crackles with a signal. The signal strength dial only shows the nearest hundred to help us locate the source.

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

W				W													
500	1700	290	130	500	5000	2000	1700	200	290	7000	1700	1700	20	4300	7000	300	90 3000

						W			
5000	2000	1700	900	50	170	500	1700	110	290

Round 517 to the nearest hundred → **W**

Round 86 to the nearest ten → **B**

Round 171 to the nearest ten → **O**

Round 3,389 to the nearest thousand → **Y**

Round 169 to the nearest hundred → **M**

Round 267 to the nearest hundred → **G**

Round 4,307 to the nearest hundred → **I**

Round 114 to the nearest ten → **R**

Round 53 to the nearest ten → **L**

Round 127 to the nearest ten → **A**

Round 22 to the nearest ten → **Z**

Round 2,409 to the nearest thousand → **H**

Round 904 to the nearest hundred → **F**

Round 7,367 to the nearest thousand → **N**

Round 1,708 to the nearest hundred → **E**

Round 4,636 to the nearest thousand → **T**

Round 291 to the nearest ten → **S**

Scratch space:

CLUE 5**Two-step equations - the last clue**

A locked supply chest has a puzzle. We must double our gold coins and then add five to find the code.

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:

$2x + 7 = 9, x = \boxed{}$

$4x + 3 = 35, x = \boxed{}$

$2x + 7 = 11, x = \boxed{}$

$3x + 9 = 27, x = \boxed{}$

$4x + 5 = 17, x = \boxed{}$

$6x + 4 = 76, x = \boxed{}$

$5x + 9 = 64, x = \boxed{}$

$3x + 2 = 29, x = \boxed{}$

$4x + 3 = 31, x = \boxed{}$

$4x + 2 = 22, x = \boxed{}$

$4x + 12 = 52, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain paddles down the rushing river, then lights a bright wooden torch.
2. The villain climbs up the slippery cliff, then hides in the thick green ferns.
3. The villain swings across the deep canyon, then builds a bridge over the mud.
4. The villain dives into the glowing blue cave, then whispers to the sleepy monkeys.
5. The villain climbs up the slippery cliff, then lights a bright wooden torch.
6. The villain follows the dusty trail map, then ties a double knot on the tent.
7. The villain dives into the glowing blue cave, then builds a bridge over the mud.
8. The villain paddles down the rushing river, then hides in the thick green ferns.
9. The villain swings across the deep canyon, then lights a bright wooden torch.
10. The villain dives into the glowing blue cave, then hides in the thick green ferns.
11. The villain climbs up the slippery cliff, then whispers to the sleepy monkeys.
12. The villain paddles down the rushing river, then builds a bridge over the mud.

Answer Key

The Secret of Whispering Vine Island

Culprit: Toby

cave diving · animal whispering · right-handed compass · green camo bandana · allergic to pollen

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

Clue 1 (Place value): "THE BANDIT DOES NOT USE ROPE TYING"

What is the value of the 6 in 725,650? = 600 (T) · What is the value of the 1 in 95,615? = 10 (G) · What is the value of the 3 in 13,278? = 3000 (S) · What is the value of the 5 in 95,626? = 5000 (I) · What is the value of the 7 in 158,479? = 70 (U) · What is the value of the 3 in 791,538? = 30 (P) · What is the value of the 2 in 32,799? = 2000 (B) · What is the value of the 2 in 700,274? = 200 (N) · What is the value of the 6 in 26,938? = 6000 (Y) · What is the value of the 5 in 477,252? = 50 (D) · What is the value of the 3 in 99,385? = 300 (O) · What is the value of the 4 in 14,960? = 4000 (R) · What is the value of the 9 in 859,341? = 9000 (E) · What is the value of the 8 in 266,839? = 800 (H) · What is the value of the 7 in 667,114? = 7000 (A)

Clue 2 (Skip counting): "THE COMPASS WAS DROPPED ON THE RIGHT"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 = 120 (T) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 = 18 (P) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 = 90 (M) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, __, 45, 50 = 40 (H) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, __, 42, 45 = 39 (G) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, __, 60, 70 = 50 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (D) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (C) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 = 36 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (O) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, __, 18, 21 = 15 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 = 70 (S) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (A)

Clue 3 (Rounding): "WE SAW THEM SNEEZING BY THE FLOWERS"

Round 517 to the nearest hundred = 500 (W) · Round 86 to the nearest ten = 90 (B) · Round 171 to the nearest ten = 170 (O) · Round 3,389 to the nearest thousand = 3000 (Y) · Round 169 to the nearest hundred = 200 (M) · Round 267 to the nearest hundred = 300 (G) · Round 4,307 to the nearest hundred = 4300 (I) · Round 114 to the nearest ten = 110 (R) · Round 53 to the nearest ten = 50 (L) · Round 127 to the nearest ten = 130 (A) · Round 22 to the nearest ten = 20 (Z) · Round 2,409 to the nearest thousand = 2000 (H) · Round 904 to the nearest hundred = 900 (F) · Round 7,367 to the nearest thousand = 7000 (N) · Round 1,708 to the nearest hundred = 1700 (E) · Round 4,636 to the nearest thousand = 5000 (T) · Round 291 to the nearest ten = 290 (S)

Clue 4 (Bar model word problems): "GREEN CAMO BANDANA"

The red team has 113 flashlights and the blue team has 24 flashlights. How many more flashlights does the red team have? = 89 (G) · The red team has 160 gold coins and the blue team has 23 gold coins. How many more gold coins does the red team have? = 137 (C) · The Lead Scout used $\frac{1}{2}$ of the flashlights on the first day. The other 59 flashlights were used the next day. How many flashlights were there in all? = 118 (M) · There were 182 banana snacks in all. 39 banana snacks were used. How many banana snacks are left? = 143 (A) · One group collected 29 gold coins and another group collected 11 gold coins. How many gold coins in all? = 40 (E) · One group collected 93 banana snacks and another group collected 4 banana snacks. How many banana snacks in all? = 97 (R) · There were 27 banana snacks in all. 19 banana snacks were used. How many banana snacks are left? = 8 (N)

Clue 5 (Two-step equations): surviving statement is box 4 → Toby

$2x + 7 = 9, x = 1$ · $4x + 3 = 35, x = 8$ · $2x + 7 = 11, x = 2$ · $3x + 9 = 27, x = 6$ · $4x + 5 = 17, x = 3$ · $6x + 4 = 76, x = 12$ · $5x + 9 = 64, x = 11$ · $3x + 2 = 29, x = 9$ · $4x + 3 = 31, x = 7$ · $4x + 2 = 22, x = 5$ · $4x + 12 = 52, x = 10$