



The Mystery of the Sunken Sub

Grade 2 math · Addition, Subtraction, Word problems, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

Someone snuck into the underwater vault and took the ancient sea map! Solve the clues to catch the suspect before they sail away.

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 rogue diver is _____

Possible suspects

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

NAME	PRIMARY TOOL	SECONDARY GEAR	DOMINANT HAND	HELMET COLOR	VULNERABILITY
Pearl Pete	sonar blaster	deep lamp	right handed	neon blue helmet	sticky sea kelp
Piper Port	sonar blaster	deep lamp	left handed	bright yellow helmet	loud horn
Officer Finn	bubble net	deep lamp	right handed	neon blue helmet	flashing beacon
Anchor Andy	aqua jet	signal flare	left handed	bright yellow helmet	loud horn
Splash Spencer	sonar blaster	signal flare	right handed	neon blue helmet	flashing beacon
Harbor Hank	aqua jet	current booster	right handed	bright yellow helmet	loud horn
Sailor Sally	aqua jet	anchor drop	left handed	bright yellow helmet	flashing beacon
Diver Dan	bubble net	turbo propeller	right handed	bright yellow helmet	flashing beacon
Reef Riley	aqua jet	anchor drop	right handed	bright yellow helmet	loud horn
Captain Cal	aqua jet	current booster	right handed	dark green helmet	flashing beacon
Current Clara	aqua jet	turbo propeller	left handed	dark green helmet	loud horn
Captain Jack	sonar blaster	anchor drop	right handed	neon blue helmet	loud horn
Sailor Sam	bubble net	anchor drop	left handed	bright yellow helmet	loud horn
Submarine Seth	bubble net	current booster	right handed	neon blue helmet	sticky sea kelp
Beacon Bella	grapple hook	signal flare	left handed	neon blue helmet	sticky sea kelp
Coastline Chloe	aqua jet	current booster	left handed	neon blue helmet	loud horn
Shellie Shore	aqua jet	turbo propeller	left handed	bright yellow helmet	loud horn
Coral Cody	aqua jet	signal flare	right handed	dark green helmet	flashing beacon
Barnaby Bay	bubble net	turbo propeller	left handed	bright yellow helmet	loud horn
Tides Tim	sonar blaster	signal flare	left handed	neon blue helmet	flashing beacon
Trench Tess	grapple hook	anchor drop	right handed	neon blue helmet	sticky sea kelp

CLUE 1 Addition

We counted the supply crates packed on the boat deck to find our first clue.

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

35 26 65 85 49 67 23 66 44 35 93 24 65 48 80 24 35

49 48 65 96 93 65 65 23 67 96 95 23

$19 + 16 = \boxed{} \rightarrow \boxed{\text{T}}$

$$21 + 23 = \boxed{} \rightarrow \boxed{\text{I}}$$

$47 + 33 = \boxed{} \rightarrow \boxed{\text{N}}$

$28 + 57 = \boxed{} \rightarrow \boxed{\text{C}}$

$15 + 34 = \boxed{} \rightarrow \boxed{\text{U}}$

$43 + 22 = \boxed{} \rightarrow \boxed{\text{E}}$

$38 + 29 = \boxed{} \rightarrow \boxed{\text{L}}$

$$16 + 10 = \boxed{} \rightarrow \boxed{\text{H}}$$

$61 + 34 = \boxed{} \rightarrow \boxed{\text{M}}$

$30 + 36 = \boxed{} \rightarrow \boxed{\text{R}}$

$24 + 24 = \boxed{} \rightarrow \boxed{\text{S}}$

$15 + 8 = \boxed{} \rightarrow \boxed{\text{P}}$

$10 + 14 = \boxed{} \rightarrow \boxed{0}$

$30 + 66 = \boxed{} \rightarrow \boxed{\text{A}}$

$43 + 50 = \boxed{} \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 2

Subtraction

Some oxygen tanks were taken from the shed so we subtracted to see what was left.

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

W												W					
41	71	33	42	67	21	21	67	21	21	73	41	73	38	67	36	33	

78	73	42	39	67	39	39	71	31	67	63

$51 - 10 = \square \rightarrow \boxed{\text{W}}$

$57 - 15 = \square \rightarrow \boxed{\text{N}}$

$40 - 4 = \square \rightarrow \boxed{\text{F}}$

$65 - 26 = \square \rightarrow \boxed{\text{D}}$

$99 - 32 = \square \rightarrow \boxed{\text{E}}$

$52 - 14 = \square \rightarrow \boxed{\text{L}}$

$66 - 35 = \square \rightarrow \boxed{\text{V}}$

$51 - 30 = \square \rightarrow \boxed{\text{S}}$

$108 - 37 = \square \rightarrow \boxed{\text{I}}$

$45 - 12 = \square \rightarrow \boxed{\text{T}}$

$98 - 20 = \square \rightarrow \boxed{\text{H}}$

$85 - 22 = \square \rightarrow \boxed{\text{R}}$

$105 - 32 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 3

Word problems

The harbor master gave us a report about missing diving tools to solve.

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

Someone scared the villain off with

L							
22	37	12	20	15	37	6	27

.

Junior Diver lined up 2 rows of 11 air tanks. How many air tanks in all?

Answer: →

L

Junior Diver found 2 air tanks yesterday and 35 more today. How many air tanks in all?

Answer: →

O

Junior Diver found 8 compasses yesterday and 7 more today. How many compasses in all?

Answer: →

H

Junior Diver lined up 3 rows of 9 sea maps. How many sea maps in all?

Answer: →

N

Junior Diver lined up 3 rows of 2 dive fins. How many dive fins in all?

Answer: →

R

Junior Diver lined up 4 rows of 3 sea maps. How many sea maps in all?

Answer: →

U

Junior Diver lined up 5 rows of 4 glow sticks. How many glow sticks in all?

Answer: →

D

Scratch space:

CLUE 4 Skip counting

We counted the sonar pings coming from the bay in steady jumps.

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

A																		
33	100	22	50	130	25	6	30	39	90	90	27	16	25	39	90	36	39	6
						A												
45	50	9	27	22	16	33	9	14	22	27	60	60	39	14				

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **V**

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

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

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

Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 → **Y**

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 → **P**

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

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 → **D**

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

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

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

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

Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 → **S**

Scratch space:

CLUE 5**Missing addends - the last clue**

We knew how many map pieces we needed and figured out what was missing.

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:

$10 + \underline{\quad} = 11$

$1 + \underline{\quad} = 5$

$8 + \underline{\quad} = 17$

$6 + \underline{\quad} = 9$

$3 + \underline{\quad} = 9$

$4 + \underline{\quad} = 9$

$8 + \underline{\quad} = 20$

$10 + \underline{\quad} = 20$

$3 + \underline{\quad} = 14$

$4 + \underline{\quad} = 6$

$7 + \underline{\quad} = 14$

Step 2 - cross out the sentence with each answer:

1. The villain trapped the gate in a bubble net, then lowered the anchor drop.
2. The villain sliced through with the laser cutter, then lowered the anchor drop.
3. The villain latched on using the grapple hook, then spun the turbo propeller.
4. The villain zoomed off with the aqua jet, then spun the turbo propeller.
5. The villain sliced through with the laser cutter, then switched on the deep lamp.
6. The villain latched on using the grapple hook, then switched on the deep lamp.
7. The villain sliced through with the laser cutter, then lit a signal flare.
8. The villain trapped the gate in a bubble net, then spun the turbo propeller.
9. The villain zoomed off with the aqua jet, then lit a signal flare.
10. The villain zoomed off with the aqua jet, then lowered the anchor drop.
11. The villain zoomed off with the aqua jet, then switched on the deep lamp.
12. The villain fired the sonar blaster, then fired the current booster.

Answer Key

The Mystery of the Sunken Sub

Culprit: Barnaby Bay

bubble net · turbo propeller · left handed · bright yellow helmet · loud horn

Trail: Start 21 → Clue 1 18 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CULPRIT DOES NOT USE A DEEP LAMP"

$19 + 16 = 35$ (T) · $21 + 23 = 44$ (I) · $47 + 33 = 80$ (N) · $28 + 57 = 85$ (C) · $15 + 34 = 49$ (U) · $43 + 22 = 65$ (E) · $38 + 29 = 67$ (L) · $16 + 10 = 26$ (H) · $61 + 34 = 95$ (M) · $30 + 36 = 66$ (R) · $24 + 24 = 48$ (S) · $15 + 8 = 23$ (P) · $10 + 14 = 24$ (O) · $30 + 66 = 96$ (A) · $43 + 50 = 93$ (D)

Clue 2 (Subtraction): "WITNESSES SAW A LEFT HANDED DIVER"

$51 - 10 = 41$ (W) · $57 - 15 = 42$ (N) · $40 - 4 = 36$ (F) · $65 - 26 = 39$ (D) · $99 - 32 = 67$ (E) · $52 - 14 = 38$ (L) · $66 - 35 = 31$ (V) · $51 - 30 = 21$ (S) · $108 - 37 = 71$ (I) · $45 - 12 = 33$ (T) · $98 - 20 = 78$ (H) · $85 - 22 = 63$ (R) · $105 - 32 = 73$ (A)

Clue 3 (Word problems): "LOUD HORN"

Junior Diver lined up 2 rows of 11 air tanks. How many air tanks in all? = 22 (L) · Junior Diver found 2 air tanks yesterday and 35 more today. How many air tanks in all? = 37 (O) · Junior Diver found 8 compasses yesterday and 7 more today. How many compasses in all? = 15 (H) · Junior Diver lined up 3 rows of 9 sea maps. How many sea maps in all? = 27 (N) · Junior Diver lined up 3 rows of 2 dive fins. How many dive fins in all? = 6 (R) · Junior Diver lined up 4 rows of 3 sea maps. How many sea maps in all? = 12 (U) · Junior Diver lined up 5 rows of 4 glow sticks. How many glow sticks in all? = 20 (D)

Clue 4 (Skip counting): "A BRIGHT YELLOW HELMET VISOR WAS DROPPED"

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

Clue 5 (Missing addends): surviving statement is box 8 → Barnaby Bay

$10 + \underline{\quad} = 11 = 1$ · $1 + \underline{\quad} = 5 = 4$ · $8 + \underline{\quad} = 17 = 9$ · $6 + \underline{\quad} = 9 = 3$ · $3 + \underline{\quad} = 9 = 6$ · $4 + \underline{\quad} = 9 = 5$ · $8 + \underline{\quad} = 20 = 12$ · $10 + \underline{\quad} = 20 = 10$ · $3 + \underline{\quad} = 14 = 11$ · $4 + \underline{\quad} = 6 = 2$ · $7 + \underline{\quad} = 14 = 7$