Mystery of the Lost Temple Compass

Grade 6 math · Percentages, Bar models, Multi-step word problems, Word problems, Missing addends · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone snuck into the expedition tent and took the golden sun compass. Examine the evidence left along the jungle path to catch the rogue explorer.

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 Explorer is _____

Possible suspects

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

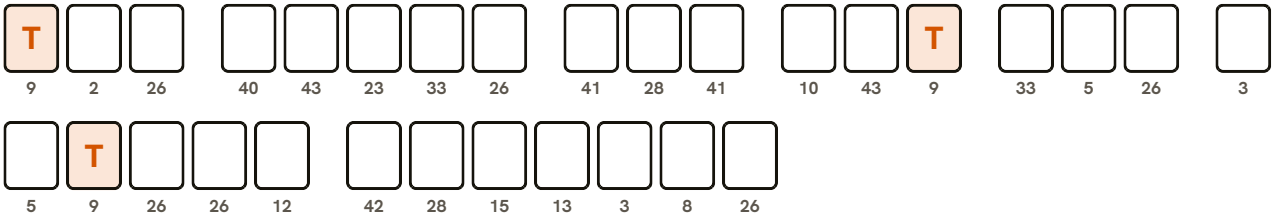
NAME	GEAR SPECIALTY	CAMP TOOL	STRAP STYLE	HAT STYLE	DISTRACTION
Professor Maya	Machete Tool	Signal Flare	Left Shoulder Strap	Pith Helmet	Shiny Mirrors
Explorer Eva	Glider Wings	Smoke Bomb	Right Shoulder Strap	Green Bandana	Shiny Mirrors
Pathfinder Zoe	Compass Watch	Smoke Bomb	Right Shoulder Strap	Green Bandana	Shiny Mirrors
Guide Gary	Rope Ladder	Pocket Radio	Right Shoulder Strap	Pith Helmet	Loud Whistles
Surfer Sean	Rope Ladder	Steel Pickaxe	Right Shoulder Strap	Brown Bush Hat	Loud Whistles
Agent Alice	Rope Ladder	Steel Pickaxe	Left Shoulder Strap	Pith Helmet	Sweet Berries
Navigator Nora	Rope Ladder	Signal Flare	Right Shoulder Strap	Green Bandana	Shiny Mirrors
Scout Skyler	Rope Ladder	Brass Lantern	Right Shoulder Strap	Green Bandana	Sweet Berries
Hunter Hugo	Machete Tool	Pocket Radio	Right Shoulder Strap	Pith Helmet	Sweet Berries
Climber Cole	Compass Watch	Pocket Radio	Left Shoulder Strap	Green Bandana	Shiny Mirrors
Botanist Ben	Glider Wings	Smoke Bomb	Left Shoulder Strap	Green Bandana	Loud Whistles
Captain Clara	Glider Wings	Signal Flare	Right Shoulder Strap	Brown Bush Hat	Shiny Mirrors
Mapper Meg	Machete Tool	Steel Pickaxe	Right Shoulder Strap	Pith Helmet	Sweet Berries
Scout Sam	Glider Wings	Brass Lantern	Right Shoulder Strap	Pith Helmet	Sweet Berries
Trekker Tess	Glider Wings	Brass Lantern	Right Shoulder Strap	Pith Helmet	Shiny Mirrors
Runner Rex	Grappling Hook	Smoke Bomb	Right Shoulder Strap	Brown Bush Hat	Loud Whistles
Ranger Rick	Rope Ladder	Smoke Bomb	Left Shoulder Strap	Pith Helmet	Sweet Berries
Hiker Hank	Rope Ladder	Brass Lantern	Right Shoulder Strap	Pith Helmet	Sweet Berries
Diver Dan	Glider Wings	Smoke Bomb	Right Shoulder Strap	Pith Helmet	Sweet Berries
Rover Rita	Glider Wings	Brass Lantern	Right Shoulder Strap	Green Bandana	Shiny Mirrors
Adventurer Amy	Glider Wings	Signal Flare	Left Shoulder Strap	Brown Bush Hat	Sweet Berries

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CLUE 1 Percentages

> The quartermaster tallied the remaining trail supplies to uncover our first clue.

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



10% of 90 = ☐ → T

20% of 215 = ☐ → O

10% of 330 = ☐ → U

5% of 160 = ☐ → X

50% of 6 = ☐ → A

10% of 230 = ☐ → G

25% of 52 = ☐ → K

40% of 25 = ☐ → N

10% of 20 = ☐ → H

75% of 20 = ☐ → C

50% of 84 = ☐ → P

20% of 205 = ☐ → D

25% of 20 = ☐ → S

60% of 20 = ☐ → L

25% of 104 = ☐ → E

25% of 112 = ☐ → I

50% of 80 = ☐ → R

Scratch space:

CLUE 2 Bar model word problems

Comparing the expedition team resource bars revealed a hidden trail pattern.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R								U	L	D	E	R			R	A	P	.
126	65	23	107	125	46	107	41					126	46	125	126				

The red team has 141 supply crates and the blue team has 15 supply crates. How many more supply crates does the red team have?

draw a bar model

Answer: ☐ → R

Quartermaster has 130 trail rations, packed 2 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → I

Quartermaster has 46 supply crates, packed 2 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → G

Quartermaster has 184 supply crates, packed 4 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → S

Quartermaster shares 214 ancient coins equally among 2 teams. How many ancient coins does each team get?

draw a bar model

Answer: ☐ → H

One group collected 104 ancient coins and another group collected 21 ancient coins. How many ancient coins in all?

draw a bar model

Answer: ☐ → T

Quartermaster has 123 jungle maps, packed 3 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → O

CLUE 3 Multi-step word problems

Calculating the multi stop gear weights helped us narrow down the suspect.

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

Someone scared the villain off with

S												S
65	55	61	61	14	86	61	56	56	42	61	65	

.

There were 223 supply crates in all. 2 expedition team used 14 supply crates each. The other 3 expedition team shared the rest equally. How many supply crates did each of the other expedition team get?

Answer: ☐ → S

Quartermaster earned 2 jungle maps in each of 2 rounds, plus 97 bonus jungle maps. Then 15 jungle maps were lost. How many jungle maps are left?

Answer: ☐ → B

Quartermaster collected 18 bronze idols in the morning and 257 bronze idols in the afternoon, then split them equally among 5 expedition team. How many bronze idols did each get?

Answer: ☐ → W

There were 170 trail rations in all. 2 trail rations were set aside. The rest were shared equally among 3 expedition team. How many trail rations did each get?

Answer: ☐ → R

There were 114 bronze idols in all. 30 bronze idols were set aside. The rest were shared equally among 2 expedition team. How many bronze idols did each get?

Answer: ☐ → I

There were 219 ancient coins in all. 3 expedition team used 12 ancient coins each. The other 3 expedition team shared the rest equally. How many ancient coins did each of the other expedition team get?

Answer: ☐ → E

There were 72 trail rations in all. 2 expedition team used 22 trail rations each. The other 2 expedition team shared the rest equally. How many trail rations did each of the other expedition team get?

Answer: ☐ → T

Scratch space:

CLUE 4 Word problems

Checking the percentage of map routes explored brought another detail to light.

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

A strand of

P									
15	11	40	60	60	87	6	39	87	40

hair turned up at the scene.

Quartermaster lined up 5 rows of 3 supply crates. How many supply crates in all?

Answer: ☐ → **P**

Quartermaster found 39 jungle maps yesterday and 21 more today. How many jungle maps in all?

Answer: ☐ → **H**

Quartermaster found 24 ancient coins yesterday and 15 more today. How many ancient coins in all?

Answer: ☐ → **M**

Quartermaster lined up 8 rows of 5 supply crates. How many supply crates in all?

Answer: ☐ → **T**

Quartermaster found 58 supply crates yesterday and 29 more today. How many supply crates in all?

Answer: ☐ → **E**

Quartermaster lined up 3 rows of 2 ancient coins. How many ancient coins in all?

Answer: ☐ → **L**

There were 35 jungle maps. 24 were used up. How many jungle maps are left?

Answer: ☐ → **I**

Scratch space:

CLUE 5 Missing addends - the last clue

Finding the missing count of supply crates uncovered the final trace.

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:

19 + ___ = 26 ☐	32 + ___ = 38 ☐	35 + ___ = 39 ☐	10 + ___ = 20 ☐
26 + ___ = 31 ☐	10 + ___ = 18 ☐	36 + ___ = 37 ☐	20 + ___ = 31 ☐
34 + ___ = 43 ☐	4 + ___ = 6 ☐	27 + ___ = 39 ☐	

Step 2 - cross out the sentence with each answer:

1. The villain swung across the ravine with a grappling hook, then signaled the camp with a signal flare.
2. The villain tracked the path with a compass watch, then lit the dark cave with a brass lantern.
3. The villain soared off the cliff with glider wings, then escaped in a cloud from a smoke bomb.
4. The villain climbed the ruins with a rope ladder, then lit the dark cave with a brass lantern.
5. The villain soared off the cliff with glider wings, then tuned into static on a pocket radio.
6. The villain cleared the thick vines with a machete tool, then tuned into static on a pocket radio.
7. The villain soared off the cliff with glider wings, then lit the dark cave with a brass lantern.
8. The villain swung across the ravine with a grappling hook, then tuned into static on a pocket radio.
9. The villain tracked the path with a compass watch, then chipped the door with a steel pickaxe.
10. The villain climbed the ruins with a rope ladder, then tuned into static on a pocket radio.
11. The villain swung across the ravine with a grappling hook, then lit the dark cave with a brass lantern.
12. The villain climbed the ruins with a rope ladder, then signaled the camp with a signal flare.

TEACHER / PARENT

Answer Key

Mystery of the Lost Temple Compass

Culprit: Diver Dan

Glider Wings · Smoke Bomb · Right Shoulder Strap · Pith Helmet · Sweet Berries

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Percentages): "THE ROGUE DID NOT USE A STEEL PICKAXE"

10% of 90 = 9 (T) · 20% of 215 = 43 (O) · 10% of 330 = 33 (U) · 5% of 160 = 8 (X) · 50% of 6 = 3 (A) · 10% of 230 = 23 (G) · 25% of 52 = 13 (K) · 40% of 25 = 10 (N) · 10% of 20 = 2 (H) · 75% of 20 = 15 (C) · 50% of 84 = 42 (P) · 20% of 205 = 41 (D) · 25% of 20 = 5 (S) · 60% of 20 = 12 (L) · 25% of 104 = 26 (E) · 25% of 112 = 28 (I) · 50% of 80 = 40 (R)

Clue 2 (Bar model word problems): "RIGHT SHOULDER STRAP"

The red team has 141 supply crates and the blue team has 15 supply crates. How many more supply crates does the red team have? = 126 (R) · Quartermaster has 130 trail rations, packed 2 to a bag. How many bags can be filled? = 65 (I) · Quartermaster has 46 supply crates, packed 2 to a bag. How many bags can be filled? = 23 (G) · Quartermaster has 184 supply crates, packed 4 to a bag. How many bags can be filled? = 46 (S) · Quartermaster shares 214 ancient coins equally among 2 teams. How many ancient coins does each team get? = 107 (H) · One group collected 104 ancient coins and another group collected 21 ancient coins. How many ancient coins in all? = 125 (T) · Quartermaster has 123 jungle maps, packed 3 to a bag. How many bags can be filled? = 41 (O)

Clue 3 (Multi-step word problems): "SWEET BERRIES"

There were 223 supply crates in all. 2 expedition team used 14 supply crates each. The other 3 expedition team shared the rest equally. How many supply crates did each of the other expedition team get? = 65 (S) · Quartermaster earned 2 jungle maps in each of 2 rounds, plus 97 bonus jungle maps. Then 15 jungle maps were lost. How many jungle maps are left? = 86 (B) · Quartermaster collected 18 bronze idols in the morning and 257 bronze idols in the afternoon, then split them equally among 5 expedition team. How many bronze idols did each get? = 55 (W) · There were 170 trail rations in all. 2 trail rations were set aside. The rest were shared equally among 3 expedition team. How many trail rations did each get? = 56 (R) · There were 114 bronze idols in all. 30 bronze idols were set aside. The rest were shared equally among 2 expedition team. How many bronze idols did each get? = 42 (I) · There were 219 ancient coins in all. 3 expedition team used 12 ancient coins each. The other 3 expedition team shared the rest equally. How many ancient coins did each of the other expedition team get? = 61 (E) · There were 72 trail rations in all. 2 expedition team used 22 trail rations each. The other 2 expedition team shared the rest equally. How many trail rations did each of the other expedition team get? = 14 (T)

Clue 4 (Word problems): "PITH HELMET"

Quartermaster lined up 5 rows of 3 supply crates. How many supply crates in all? = 15 (P) · Quartermaster found 39 jungle maps yesterday and 21 more today. How many jungle maps in all? = 60 (H) · Quartermaster found 24 ancient coins yesterday and 15 more today. How many ancient coins in all? = 39 (M) · Quartermaster lined up 8 rows of 5 supply crates. How many supply crates in all? = 40 (T) · Quartermaster found 58 supply crates yesterday and 29 more today. How many supply crates in all? = 87 (E) · Quartermaster lined up 3 rows of 2 ancient coins. How many ancient coins in all? = 6 (L) · There were 35 jungle maps. 24 were used up. How many jungle maps are left? = 11 (I)

Clue 5 (Missing addends): surviving statement is box 3 → Diver Dan

19 + ___ = 26 = 7 · 32 + ___ = 38 = 6 · 35 + ___ = 39 = 4 · 10 + ___ = 20 = 10 · 26 + ___ = 31 = 5 · 10 + ___ = 18 = 8 · 36 + ___ = 37 = 1 · 20 + ___ = 31 = 11 · 34 + ___ = 43 = 9 · 4 + ___ = 6 = 2 · 27 + ___ = 39 = 12