



# Mystery of the Skyland Map

Grade 6 math · Multiplication, Addition, Subtraction, Place value, Division · Reading level grades 5-6

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

A sneaky sky pirate has stolen the Golden Compass from the Sky Academy. The Chief Cartographer needs your help to track down the thief among the visiting airship captains!

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 sky pirate is** \_\_\_\_\_

## Possible suspects

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

| NAME               | NAVIGATION GEAR    | AIRSHIP GADGET | STEERING HAND             | HAIR COLOR        | FEAR              |
|--------------------|--------------------|----------------|---------------------------|-------------------|-------------------|
| James Cook         | Silver Chronometer | Smoke Screen   | Right handed compass user | Fiery Red hair    | Fear of rust      |
| Zheng He           | Solar Astrolabe    | Smoke Screen   | Right handed compass user | Fiery Red hair    | Fear of heights   |
| Amelia Earhart     | Brass Spyglass     | Glider Wings   | Right handed compass user | Sandy Blonde hair | Fear of heights   |
| Marco Polo         | Silver Chronometer | Steam Booster  | Left handed compass user  | Dark Raven hair   | Fear of lightning |
| Roald Amundsen     | Solar Astrolabe    | Smoke Screen   | Left handed compass user  | Dark Raven hair   | Fear of rust      |
| Leif Erikson       | Steam Barometer    | Harpoon Gun    | Right handed compass user | Dark Raven hair   | Fear of rust      |
| Jacques Cousteau   | Golden Sextant     | Steam Booster  | Left handed compass user  | Sandy Blonde hair | Fear of heights   |
| Henry Hudson       | Brass Spyglass     | Glider Wings   | Right handed compass user | Sandy Blonde hair | Fear of lightning |
| Ferdinand Magellan | Steam Barometer    | Smoke Screen   | Right handed compass user | Sandy Blonde hair | Fear of heights   |
| Walter Raleigh     | Silver Chronometer | Harpoon Gun    | Right handed compass user | Sandy Blonde hair | Fear of lightning |
| John Cabot         | Silver Chronometer | Harpoon Gun    | Right handed compass user | Sandy Blonde hair | Fear of heights   |
| Bessie Coleman     | Golden Sextant     | Steam Booster  | Right handed compass user | Dark Raven hair   | Fear of rust      |
| Ibn Battuta        | Golden Sextant     | Harpoon Gun    | Left handed compass user  | Sandy Blonde hair | Fear of rust      |
| Robert Peary       | Silver Chronometer | Grappling Hook | Right handed compass user | Fiery Red hair    | Fear of rust      |
| Sacagawea          | Steam Barometer    | Steam Booster  | Right handed compass user | Sandy Blonde hair | Fear of heights   |
| Captain Amelia     | Silver Chronometer | Steam Booster  | Right handed compass user | Sandy Blonde hair | Fear of lightning |
| Charles Lindbergh  | Silver Chronometer | Smoke Screen   | Left handed compass user  | Sandy Blonde hair | Fear of heights   |
| Nellie Bly         | Golden Sextant     | Grappling Hook | Left handed compass user  | Dark Raven hair   | Fear of heights   |
| Vasco da Gama      | Brass Spyglass     | Steam Booster  | Left handed compass user  | Dark Raven hair   | Fear of lightning |
| Wilbur Wright      | Steam Barometer    | Grappling Hook | Right handed compass user | Sandy Blonde hair | Fear of rust      |
| Sally Ride         | Solar Astrolabe    | Smoke Screen   | Right handed compass user | Sandy Blonde hair | Fear of heights   |

## CLUE 1

## Multiplication facts (1-12)

The skyguard found a crate of cargo boxes stacked in perfect rows. If we multiply the rows of boxes, we can unlock the security feed showing the thief's escape ship!

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

|     |     |    |    |     |     |    |    |    |    |    |    |     |     |    |    |     |
|-----|-----|----|----|-----|-----|----|----|----|----|----|----|-----|-----|----|----|-----|
| T   |     |    |    |     |     |    |    |    |    |    |    |     |     |    |    | T   |
| 108 | 132 | 42 | 22 | 40  | 15  | 15 | 64 | 40 | 20 | 6  | 11 | 42  | 121 | 20 | 11 | 108 |
|     |     |    |    |     |     | T  |    |    |    |    |    |     | T   |    |    |     |
| 55  | 121 | 42 | 64 | 121 | 108 | 42 | 64 | 32 | 44 | 11 | 11 | 121 | 108 | 42 | 9  |     |

$9 \times 12 = \square \rightarrow \boxed{\text{T}}$

$4 \times 11 = \square \rightarrow \boxed{\text{B}}$

$4 \times 8 = \square \rightarrow \boxed{\text{M}}$

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

$8 \times 8 = \square \rightarrow \boxed{\text{A}}$

$3 \times 5 = \square \rightarrow \boxed{\text{L}}$

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

$9 \times 1 = \square \rightarrow \boxed{\text{R}}$

$2 \times 10 = \square \rightarrow \boxed{\text{N}}$

$11 \times 12 = \square \rightarrow \boxed{\text{H}}$

$10 \times 4 = \square \rightarrow \boxed{\text{I}}$

$5 \times 11 = \square \rightarrow \boxed{\text{U}}$

$6 \times 1 = \square \rightarrow \boxed{\text{D}}$

$11 \times 11 = \square \rightarrow \boxed{\text{S}}$

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

Scratch space:

## CLUE 2 Addition

We need to tally up all the fuel canisters left on the landing dock. Adding the supplies together will unlock the witness statement from the docking master.

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

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| T    |      |      | T    |      |      |      |      |      | T    |      |      |      |      |      |      | T    |      |
| 7206 | 7550 | 5218 | 7206 | 7550 | 4151 | 5218 | 3505 | 4159 | 7206 | 5218 | 5218 | 4886 | 4159 | 5827 | 4151 | 7206 | 7550 |
| T    |      |      |      |      |      |      | T    |      |      |      |      |      |      |      |      |      |      |
| 7206 | 7550 | 5218 | 4886 | 4151 | 8974 | 7550 | 7206 | 7550 | 6780 | 9421 | 9734 |      |      |      |      |      |      |

|                                       |                                       |                                       |
|---------------------------------------|---------------------------------------|---------------------------------------|
| $4705 + 2501 = \square \rightarrow$ T | $1553 + 3333 = \square \rightarrow$ R | $3466 + 3314 = \square \rightarrow$ A |
| $3566 + 2261 = \square \rightarrow$ W | $4548 + 4873 = \square \rightarrow$ N | $4002 + 3548 = \square \rightarrow$ H |
| $5029 + 3945 = \square \rightarrow$ G | $2308 + 2910 = \square \rightarrow$ E | $2740 + 1419 = \square \rightarrow$ S |
| $2497 + 1654 = \square \rightarrow$ I | $5761 + 3973 = \square \rightarrow$ D | $1449 + 2056 = \square \rightarrow$ F |

Scratch space:

## CLUE 3

## Subtraction

The thief drained the emergency water tanks. By finding the difference between the starting gallons and what remains, we can bypass the lock on the flight log.

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

|                              |                             |                             |                              |                             |                             |                             |                             |                             |                             |                             |                             |                              |                             |                             |                             |                             |                             |                             |                             |
|------------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <div>T</div> <div>4318</div> | <div></div> <div>8013</div> | <div></div> <div>3115</div> | <div>T</div> <div>4318</div> | <div></div> <div>8013</div> | <div></div> <div>8205</div> | <div></div> <div>3115</div> | <div></div> <div>7600</div> | <div></div> <div>2760</div> | <div></div> <div>1598</div> | <div></div> <div>5211</div> | <div></div> <div>8205</div> | <div></div> <div>5600</div>  | <div></div> <div>8534</div> | <div></div> <div>3115</div> | <div></div> <div>4767</div> | <div></div> <div>2220</div> | <div></div> <div>8013</div> | <div></div> <div>3115</div> | <div></div> <div>5211</div> |
| <div>T</div> <div>4318</div> | <div></div> <div>8013</div> | <div></div> <div>3115</div> | <div></div> <div>5600</div>  | <div></div> <div>2012</div> | <div></div> <div>5893</div> | <div></div> <div>6932</div> | <div></div> <div>4767</div> | <div></div> <div>1173</div> | <div></div> <div>2760</div> | <div></div> <div>1598</div> | <div></div> <div>7639</div> | <div>T</div> <div>4318</div> | <div></div> <div>3115</div> | <div></div> <div>4767</div> |                             |                             |                             |                             |                             |

$8582 - 4264 = \square \rightarrow \boxed{\text{T}}$

$2594 - 996 = \square \rightarrow \boxed{\text{A}}$

$12310 - 4710 = \square \rightarrow \boxed{\text{F}}$

$11559 - 3025 = \square \rightarrow \boxed{\text{K}}$

$5922 - 711 = \square \rightarrow \boxed{\text{N}}$

$2139 - 966 = \square \rightarrow \boxed{\text{S}}$

$10481 - 2842 = \square \rightarrow \boxed{\text{R}}$

$8002 - 1070 = \square \rightarrow \boxed{\text{U}}$

$6015 - 4003 = \square \rightarrow \boxed{\text{L}}$

$6270 - 3155 = \square \rightarrow \boxed{\text{E}}$

$6103 - 3883 = \square \rightarrow \boxed{\text{W}}$

$5396 - 2636 = \square \rightarrow \boxed{\text{P}}$

$13188 - 4983 = \square \rightarrow \boxed{\text{I}}$

$8544 - 3777 = \square \rightarrow \boxed{\text{D}}$

$10722 - 4829 = \square \rightarrow \boxed{\text{O}}$

$12355 - 4342 = \square \rightarrow \boxed{\text{H}}$

$10000 - 4400 = \square \rightarrow \boxed{\text{C}}$

Scratch space:

## CLUE 4 Place value

The thief scrambled the coordinates on the navigation console. We must identify the correct digit in the hundreds place to decrypt the flight recorder!

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

|          |      |     |     |     |      |      |     |    |      |      |      |      |      |     |      |      |      |
|----------|------|-----|-----|-----|------|------|-----|----|------|------|------|------|------|-----|------|------|------|
| <b>W</b> |      |     |     |     |      |      |     |    |      |      |      |      |      |     |      |      |      |
| 800      | 8000 | 10  | 400 | 100 | 30   | 2000 | 40  | 50 | 30   | 2000 | 90   | 3000 | 7000 | 400 | 30   | 2000 | 8000 |
|          |      |     |     |     |      |      |     |    |      |      |      |      |      |     |      |      |      |
| 40       | 1000 | 200 | 50  | 30  | 2000 | 40   | 400 | 30 | 1000 | 80   | 8000 | 40   | 8000 | 50  | 1000 |      |      |

What is the value of the 8 in 60,841?  → **W**

What is the value of the 2 in 12,056?  → **D**

What is the value of the 8 in 90,582?  → **H**

What is the value of the 1 in 71,249?  → **T**

What is the value of the 1 in 95,143?  → **U**

What is the value of the 7 in 37,216?  → **L**

What is the value of the 1 in 678,712?  → **F**

What is the value of the 3 in 429,237?  → **N**

What is the value of the 3 in 573,424?  → **B**

What is the value of the 8 in 678,229?  → **E**

What is the value of the 4 in 83,649?  → **S**

What is the value of the 2 in 97,284?  → **R**

What is the value of the 9 in 65,891?  → **Y**

What is the value of the 5 in 20,953?  → **A**

What is the value of the 4 in 67,451?  → **O**

Scratch space:

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

We found a bag of sky-rubies dropped by the suspect. If we divide the gems equally among our crew members, the leftover count will reveal the final clue!

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:**

$6 \div 6 = \boxed{\phantom{00}}$

$48 \div 6 = \boxed{\phantom{00}}$

$2 \div 1 = \boxed{\phantom{00}}$

$33 \div 3 = \boxed{\phantom{00}}$

$49 \div 7 = \boxed{\phantom{00}}$

$15 \div 5 = \boxed{\phantom{00}}$

$99 \div 11 = \boxed{\phantom{00}}$

$90 \div 9 = \boxed{\phantom{00}}$

$24 \div 2 = \boxed{\phantom{00}}$

$45 \div 9 = \boxed{\phantom{00}}$

$42 \div 7 = \boxed{\phantom{00}}$

**Step 2 - cross out the sentence with each answer:**

1. The villain measured the air pressure with a steam barometer, then vanished behind a thick smoke screen.
2. The villain scanned the horizon with a brass spyglass, then drifted away on glider wings.
3. The villain measured the air pressure with a steam barometer, then escaped by firing a grappling hook.
4. The villain checked the flight time with a silver chronometer, then blasted a path with a harpoon gun.
5. The villain measured the air pressure with a steam barometer, then zoomed off using a steam booster.
6. The villain checked the flight time with a silver chronometer, then escaped by firing a grappling hook.
7. The villain checked the flight time with a silver chronometer, then vanished behind a thick smoke screen.
8. The villain measured the sun with a solar astrolabe, then vanished behind a thick smoke screen.
9. The villain calculated the stars with a golden sextant, then drifted away on glider wings.
10. The villain measured the sun with a solar astrolabe, then zoomed off using a steam booster.
11. The villain calculated the stars with a golden sextant, then vanished behind a thick smoke screen.
12. The villain calculated the stars with a golden sextant, then escaped by firing a grappling hook.

# Answer Key

## Mystery of the Skyland Map

### Culprit: John Cabot

Silver Chronometer · Harpoon Gun · Right handed compass user · Sandy Blonde hair · Fear of heights

Trail: Start 21 → Clue 1 15 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

### Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A STEAM BOOSTER"

$9 \times 12 = 108$  (T) ·  $4 \times 11 = 44$  (B) ·  $4 \times 8 = 32$  (M) ·  $1 \times 11 = 11$  (O) ·  $8 \times 8 = 64$  (A) ·  $3 \times 5 = 15$  (L) ·  $2 \times 11 = 22$  (V) ·  $9 \times 1 = 9$  (R) ·  $2 \times 10 = 20$  (N) ·  $11 \times 12 = 132$  (H) ·  $10 \times 4 = 40$  (I) ·  $5 \times 11 = 55$  (U) ·  $6 \times 1 = 6$  (D) ·  $11 \times 11 = 121$  (S) ·  $7 \times 6 = 42$  (E)

### Clue 2 (Addition): "THE THIEF STEERS WITH THE RIGHT HAND"

$4705 + 2501 = 7206$  (T) ·  $1553 + 3333 = 4886$  (R) ·  $3466 + 3314 = 6780$  (A) ·  $3566 + 2261 = 5827$  (W) ·  $4548 + 4873 = 9421$  (N) ·  $4002 + 3548 = 7550$  (H) ·  $5029 + 3945 = 8974$  (G) ·  $2308 + 2910 = 5218$  (E) ·  $2740 + 1419 = 4159$  (S) ·  $2497 + 1654 = 4151$  (I) ·  $5761 + 3973 = 9734$  (D) ·  $1449 + 2056 = 3505$  (F)

### Clue 3 (Subtraction): "THE THIEF PANICKED WHEN THE CLOUDS PARTED"

$8582 - 4264 = 4318$  (T) ·  $2594 - 996 = 1598$  (A) ·  $12310 - 4710 = 7600$  (F) ·  $11559 - 3025 = 8534$  (K) ·  $5922 - 711 = 5211$  (N) ·  $2139 - 966 = 1173$  (S) ·  $10481 - 2842 = 7639$  (R) ·  $8002 - 1070 = 6932$  (U) ·  $6015 - 4003 = 2012$  (L) ·  $6270 - 3155 = 3115$  (E) ·  $6103 - 3883 = 2220$  (W) ·  $5396 - 2636 = 2760$  (P) ·  $13188 - 4983 = 8205$  (I) ·  $8544 - 3777 = 4767$  (D) ·  $10722 - 4829 = 5893$  (O) ·  $12355 - 4342 = 8013$  (H) ·  $10000 - 4400 = 5600$  (C)

### Clue 4 (Place value): "WE FOUND SANDY BLONDE STRANDS ON THE SEAT"

What is the value of the 8 in 60,841? = 800 (W) · What is the value of the 2 in 12,056? = 2000 (D) · What is the value of the 8 in 90,582? = 80 (H) · What is the value of the 1 in 71,249? = 1000 (T) · What is the value of the 1 in 95,143? = 100 (U) · What is the value of the 7 in 37,216? = 7000 (L) · What is the value of the 1 in 678,712? = 10 (F) · What is the value of the 3 in 429,237? = 30 (N) · What is the value of the 3 in 573,424? = 3000 (B) · What is the value of the 8 in 678,229? = 8000 (E) · What is the value of the 4 in 83,649? = 40 (S) · What is the value of the 2 in 97,284? = 200 (R) · What is the value of the 9 in 65,891? = 90 (Y) · What is the value of the 5 in 20,953? = 50 (A) · What is the value of the 4 in 67,451? = 400 (O)

### Clue 5 (Division facts (1-12)): surviving statement is box 4 → John Cabot

$6 \div 6 = 1$  ·  $48 \div 6 = 8$  ·  $2 \div 1 = 2$  ·  $33 \div 3 = 11$  ·  $49 \div 7 = 7$  ·  $15 \div 5 = 3$  ·  $99 \div 11 = 9$  ·  $90 \div 9 = 10$  ·  $24 \div 2 = 12$  ·  $45 \div 9 = 5$  ·  $42 \div 7 = 6$