Grade 2

Your first case starts here.

The Lost Sun Dial

A complete mystery to print, solve and enjoy.

By Roberta Spring

1. Read the case briefing and meet the suspects.

2. Work through all five clues. Cross suspects off as the evidence rules them out.

3. Complete your case report, then check the worked answers.

You will need: a pencil, an eraser and some paper for working out. An adult can help with reading the instructions.

This sample is one complete case from the supplied Grade 2 book. The bonus letter for the full-book final mystery is optional; you do not need it to solve this case.

Print at actual size (100%) on US Letter paper. On A4, choose Fit. Print only the case pages if you want to save paper; the answers begin after the STOP page.

Explore the Grade 2 books at BrainBoxBooks.shop

CASE #01 · THE STARLIGHT OBSERVATORY

THE LOST SUN DIAL

Everyone agrees that something does not add up. Sometime during the morning, the sun dial disappeared from the sun terrace. A row of blocks formed a secret pattern. Follow each math answer, cross off the suspects, and discover who borrowed it!

MISSING: SUN DIAL

LAST SEEN: SUN TERRACE

DIFFICULTY	MISSION TIME	MATH SKILLS
★★☆☆	~30 min	5

THE SUSPECTS



SUSPECT 1
GINA · the Meteor curator
Snack: POPCORN · Badge: GEM



SUSPECT 2
XAVI · the Dome guide
Snack: PIZZA · Badge: GEM



SUSPECT 3
GLORIA · the Night gardener
Snack: TACOS · Badge: STAR



SUSPECT 4
OSCAR · the Lens keeper
Snack: PIZZA · Badge: GEM



SUSPECT 5
JENNA · the Sky cartographer
Snack: TACOS · Badge: GEM



SUSPECT 6
AYLA · the Junior stargazer
Snack: COOKIES · Badge: GEM



SUSPECT 7
HENRY · the Chief astronomer
Snack: TACOS · Badge: GEM



SUSPECT 8
ORI · the Clock winder
Snack: GRAPES · Badge: GEM

YOUR CLUES

CLUE 1 · COORDINATES & GRIDS | **CLUE 2 · MAPS & DIRECTIONS** | **CLUE 3 · ADD & SUBTRACT** | **CLUE 4 · ELAPSED TIME** | **CLUE 5 · MISSING NUMBERS**

Solve each clue sheet and cross suspects off. The last name standing is your culprit!

CLUE 1 OF 5

COORDINATES & GRIDS

LOCK ONTO STAR SECTOR

Scan the observatory sky until the scanner locks a sector that names the badge, then cross off every suspect who has the wrong badge.

SOLVE THE READINGS

A. 1 + 3 = ☐

B. 0 + 1 = ☐

C. 2 + 1 = ☐

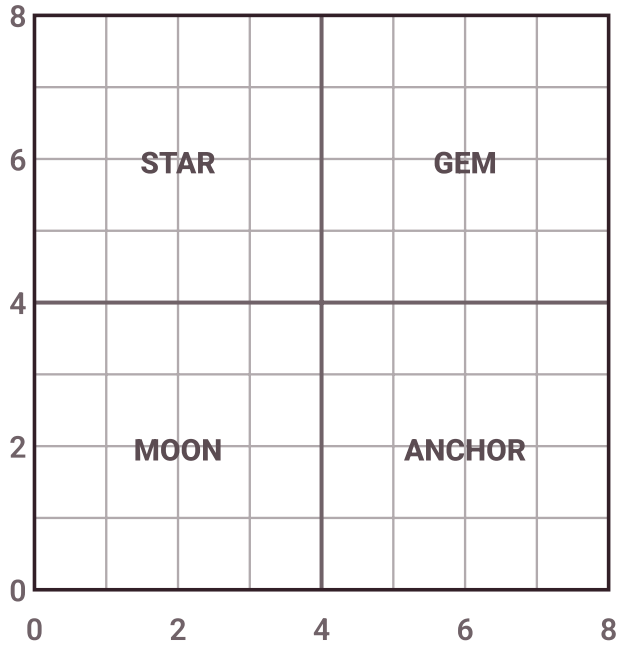
D. 0 + 2 = ☐

NOW FIND THE POINT

x = A + B = ☐

y = C + D = ☐

PLOT THE BEACON



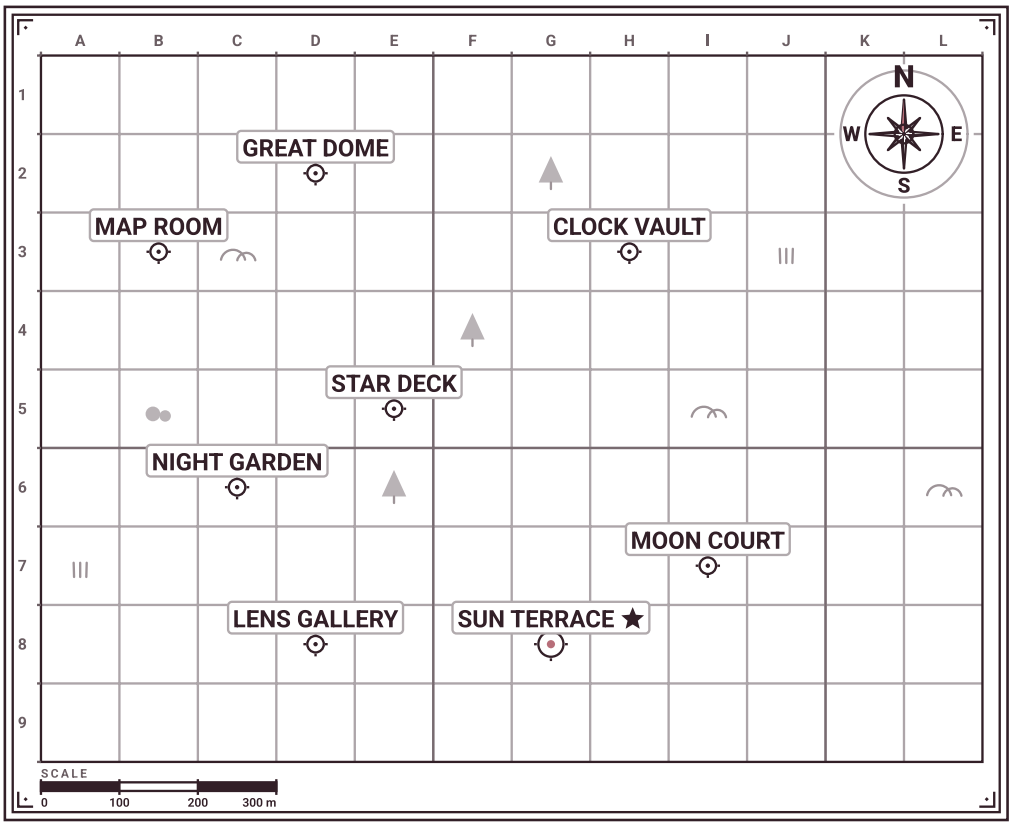
Plot your point, read the sector it lands in, then cross off every suspect with a different badge!

CLUE 2 OF 5

MAPS & DIRECTIONS

CHART THE ORBIT

Trace the starlight trail until it ends at the culprit's hiding spot, then cross off every suspect spotted at a different place.



THE TRAIL

Start at the SUN TERRACE ★

1. Go 1 + 2 squares NORTH
2. Go 1 + 1 squares SOUTH
3. Go 3 + 1 squares WEST
4. Go 0 + 1 squares NORTH

WHO WAS SEEN WHERE?

GINA	NIGHT GARDEN
XAVI	LENS GALLERY
GLORIA	SUN TERRACE
OSCAR	MOON COURT
JENNA	NIGHT GARDEN
AYLA	NIGHT GARDEN
HENRY	NIGHT GARDEN
ORI	NIGHT GARDEN

Trace the trail on the map, find where it ends, and cross off everyone seen elsewhere!

CASE #01 · THE STARLIGHT OBSERVATORY

CLUE 3 OF 5

ADD & SUBTRACT

RANK THE GALAXY SCORES

Anyone above 60 star points has an alibi — cross them off the list!

WORK OUT EVERY SUSPECT

GINA

36 + 16 − 13 = _____

JENNA

41 + 29 − 17 = _____

XAVI

36 + 21 − 13 = _____

AYLA

34 + 28 − 13 = _____

GLORIA

28 + 19 − 20 = _____

HENRY

74 + 14 − 5 = _____

OSCAR

16 + 34 − 4 = _____

ORI

39 + 12 − 9 = _____

Do the math, then cross off every suspect the rule catches!

CLUE 4 OF 5

ELAPSED TIME

THE STATION ALIBIS

Cross off each suspect still busy PAST 1:00 PM.

WHEN DID EACH SUSPECT FINISH?

Gina started an art workshop at 9:30 AM. It lasted 1 hour. Finish time: ___

Xavi started a library visit at 8:00 AM. It lasted 1 hour. Finish time: ___

Gloria started an art workshop at 8:30 AM. It lasted 3 hours. Finish time: ___

Oscar started a bike ride at 11:00 AM. It lasted 1 hour. Finish time: ___

Jenna started a music lesson at 1:30 PM. It lasted 1 hour. Finish time: ___

Ayla started an art workshop at 1:30 PM. It lasted 3 hours. Finish time: ___

Henry started a science club at 10:30 AM. It lasted 2 hours. Finish time: ___

Ori started a bike ride at 8:00 AM. It lasted 2 hours. Finish time: ___

Do the math, then cross off every suspect the rule catches!

CLUE 5 OF 5

MISSING NUMBERS

SOLVE THE SYMBOL SWITCH

SOLVE THE PROBLEMS

E. 3 + = 12 _____

U. 3 + = 11 _____

V. 9 + = 10 _____

C. 2 + = 19 _____

N. 5 + = 15 _____

H. 2 + = 16 _____

S. 5 + = 8 _____

T. 4 + = 6 _____

I. 1 + = 7 _____

L. 8 + = 15 _____

P. 6 + = 19 _____

O. 3 + = 15 _____

R. 4 + = 8 _____

CRACK THE CODE

Write each problem's letter in every box that shows its answer.

Self-check: if the boxes spell a real clue sentence, your math is correct!

☐	☐	☐		☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐						
2	14	9		17	8	7	13	4	6	2		7	12	1	9	3						

☐	☐	☐	☐	☐	☐	☐																
13	12	13	17	12	4	10																

Now cross off every suspect this clue rules out!

CASE #01 · THE STARLIGHT OBSERVATORY

CASE REPORT

The sun dial vanished from the sun terrace. You worked the clues, detective — time to name the culprit.

FINAL CHECK

- [ ] GINA · the Meteor curator
- [ ] XAVI · the Dome guide
- [ ] GLORIA · the Night gardener
- [ ] OSCAR · the Lens keeper
- [ ] JENNA · the Sky cartographer
- [ ] AYLA · the Junior stargazer
- [ ] HENRY · the Chief astronomer
- [ ] ORI · the Clock winder

THE CULPRIT IS: _____

SHOW YOUR REASONING

Which clue ruled out the most suspects? Clue ____

Name one suspect it cleared — and why the rule caught them:

- [ ] **My culprit is the ONLY suspect still standing after all 5 clues.**

SECRET LETTER for The Final Mystery → T

CASE CLOSED

STOP, DETECTIVE!

The worked answers begin on the next page.

Finish your case report before turning over. The following pages reveal the culprit and show the completed clues.

Parents and grandparents: keep these pages separate if your young detective would like to solve the case independently.

CLUE 1 OF 5

COORDINATES & GRIDS

LOCK ONTO STAR SECTOR

Scan the observatory sky until the scanner locks a sector that names the badge, then cross off every suspect who has the wrong badge.

SOLVE THE READINGS

A. 1 + 3 = **4**

B. 0 + 1 = **1**

C. 2 + 1 = **3**

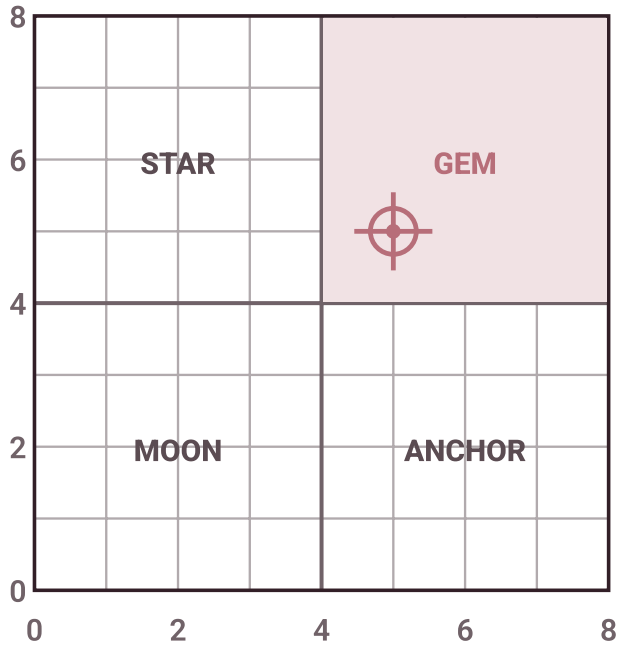
D. 0 + 2 = **2**

NOW FIND THE POINT

x = A + B = **5**

y = C + D = **5**

PLOT THE BEACON



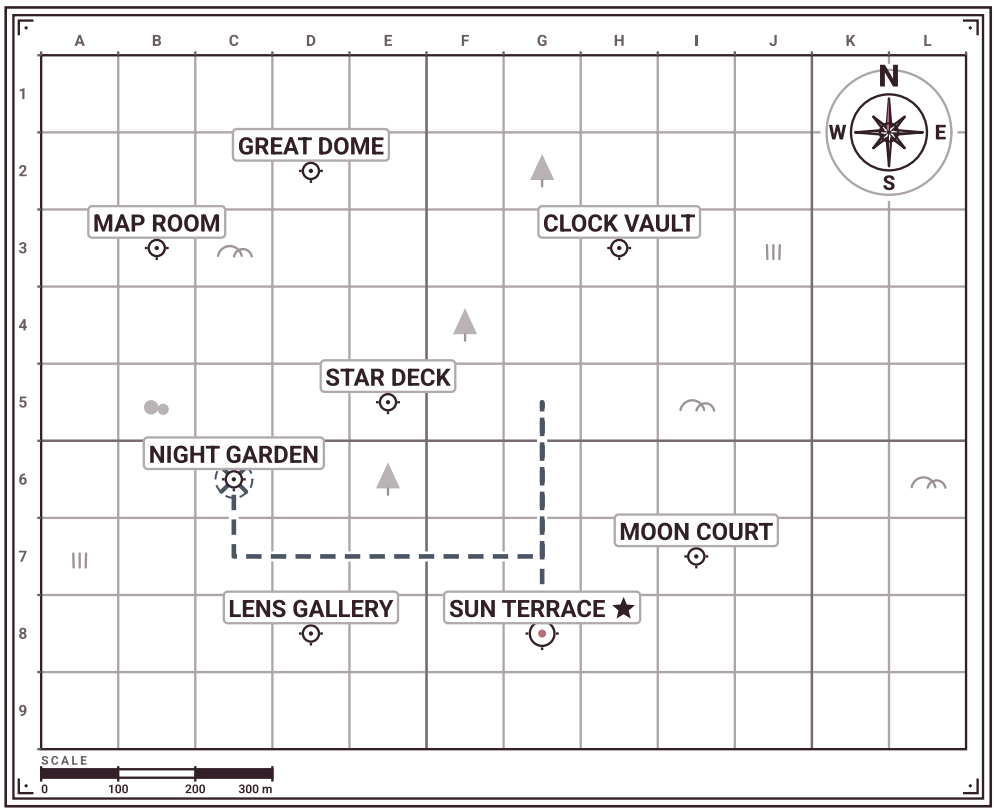
(5, 5) lands on GEM — rules out: GLORIA

CLUE 2 OF 5

MAPS & DIRECTIONS

CHART THE ORBIT

Trace the starlight trail until it ends at the culprit's hiding spot, then cross off every suspect spotted at a different place.



THE TRAIL

Start at the SUN TERRACE ★

1. Go 1 + 2 squares NORTH = 3
2. Go 1 + 1 squares SOUTH = 2
3. Go 3 + 1 squares WEST = 4
4. Go 0 + 1 squares NORTH = 1

WHO WAS SEEN WHERE?

GINA	NIGHT GARDEN
~~**XAVI**~~	LENS GALLERY
~~**GLORIA**~~	SUN TERRACE
~~**OSCAR**~~	MOON COURT
JENNA	NIGHT GARDEN
AYLA	NIGHT GARDEN
HENRY	NIGHT GARDEN
ORI	NIGHT GARDEN

The trail ends at the NIGHT GARDEN — rules out: OSCAR, XAVI

CLUE 3 OF 5

ADD & SUBTRACT

RANK THE GALAXY SCORES

Anyone above 60 star points has an alibi — cross them off the list!

WORK OUT EVERY SUSPECT

GINA
36 + 16 − 13 = 39 star points

JENNA
41 + 29 − 17 = 53 star points

XAVI
36 + 21 − 13 = 44 star points

AYLA
34 + 28 − 13 = 49 star points

GLORIA
28 + 19 − 20 = 27 star points

~~HENRY~~
74 + 14 − 5 = 83 star points

OSCAR
16 + 34 − 4 = 46 star points

ORI
39 + 12 − 9 = 42 star points

Rules out: HENRY

CLUE 4 OF 5

ELAPSED TIME

THE STATION ALIBIS

Cross off each suspect still busy PAST 1:00 PM.

WHEN DID EACH SUSPECT FINISH?

Gina started an art workshop at 9:30 AM. It lasted 1 hour. Finish time: ___ **10:30 AM**

✓ *9:30 AM + 1 hour = 10:30 AM*

Xavi started a library visit at 8:00 AM. It lasted 1 hour. Finish time: ___ **9:00 AM**

✓ *8:00 AM + 1 hour = 9:00 AM*

Gloria started an art workshop at 8:30 AM. It lasted 3 hours. Finish time: ___ **11:30 AM**

✓ *8:30 AM + 3 hours = 11:30 AM*

Oscar started a bike ride at 11:00 AM. It lasted 1 hour. Finish time: ___ **12:00 PM**

✓ *11:00 AM + 1 hour = 12:00 PM*

~~Jenna started a music lesson at 1:30 PM. It lasted 1 hour. Finish time: ___~~ **2:30 PM**

✓ *1:30 PM + 1 hour = 2:30 PM*

~~Ayla started an art workshop at 1:30 PM. It lasted 3 hours. Finish time: ___~~ **4:30 PM**

✓ *1:30 PM + 3 hours = 4:30 PM*

Henry started a science club at 10:30 AM. It lasted 2 hours. Finish time: ___ **12:30 PM**

✓ *10:30 AM + 2 hours = 12:30 PM*

Ori started a bike ride at 8:00 AM. It lasted 2 hours. Finish time: ___ **10:00 AM**

✓ *8:00 AM + 2 hours = 10:00 AM*

Rules out: AYLA, JENNA

CLUE 5 OF 5

MISSING NUMBERS

SOLVE THE SYMBOL SWITCH

SOLVE THE PROBLEMS

E. 3 + = 12 9

U. 3 + = 11 8

V. 9 + = 10 1

C. 2 + = 19 17

N. 5 + = 15 10

H. 2 + = 16 14

S. 5 + = 8 3

T. 4 + = 6 2

I. 1 + = 7 6

L. 8 + = 15 7

P. 6 + = 19 13

O. 3 + = 15 12

R. 4 + = 8 4

CRACK THE CODE

Write each problem's letter in every box that shows its answer.
Self-check: if the boxes spell a real clue sentence, your math is correct!

T	H	E		C	U	L	P	R	I	T		L	O	V	E	S
2	14	9		17	8	7	13	4	6	2		7	12	1	9	3

P	O	P	C	O	R	N
13	12	13	17	12	4	10

Rules out: ORI

CASE #01 · THE STARLIGHT OBSERVATORY · SOLUTION

CASE REPORT

The sun dial vanished from the sun terrace. You worked the clues, detective — time to name the culprit.

FINAL CHECK

- ☑ **GINA · the Meteor curator**
- ☒ XAVI · the Dome guide
- ☒ GLORIA · the Night gardener
- ☒ OSCAR · the Lens keeper
- ☒ JENNA · the Sky cartographer
- ☒ AYLA · the Junior stargazer
- ☒ HENRY · the Chief astronomer
- ☒ ORI · the Clock winder

THE CULPRIT IS: GINA

SOLVED!

HOW IT WAS SOLVED

Clue 1 cleared GLORIA. Clue 2 cleared OSCAR & XAVI. Clue 3 cleared HENRY. Clue 4 cleared AYLA & JENNA. Clue 5 cleared ORI. Only GINA was left standing — that's the culprit!

SECRET LETTER for The Final Mystery → T

CASE CLOSED

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