

Observatory Night Chart

HOST ONLY - preparation and story

Includes answers. Keep these pages with an adult.

The observatory has a near-match star label, two different chart copies and a telescope keeper list. Restore the reading order for tonight's imaginary sky. Collect five named badge digits and use the final sheet. Every clue is on the table; ask the host for one hint at a time.

1. Print one player pack and two record sheets per team. Keep the host answers and all three hint levels with the adult.
2. Keep every clue as a full sheet at one table. Put the final sheet face down until all five results are recorded. Nothing needs cutting, folding or hiding.
3. Give each child a pencil. Choose a reader, recorder and checker, and swap jobs after each clue. Use one team for 2-4 children or two teams for 5-6.

Players: 4; teams: 1. Print one player and prop set per team. Invitations and certificates: 4 each.

Paper and pencils are enough. Keep whole sheets at one table; nothing needs cutting, folding or hiding.

Observatory Night Chart

HOST ONLY - solution guide

1. Label: 6

Only row 3 has STAR followed immediately by 6. Other rows have changed or reversed letters.

2. Chart: 5

Different positions are 1, 3, 4, 6, 8. There are 5 differences.

3. Keeper: 9

Vega has Scope; Rigel has Pen; Deneb has Chart. Rigel's item gives 9.

4. Read: 2

The only order is Open roof > Set scope > Read chart > Record sky. Position 4 carries 2.

5. Point: 9

The route ends at row 3, column 4. That cell gives 9.

6. Final: 69259

Label > Keeper > Read > Chart > Point

Observatory Night Chart

HOST ONLY - timeline and paper check

3 minutes: Read the story, show the badge record and choose roles.

undefined minutes: Solve Label. Offer one hint level at a time if wanted.

3 minutes: Solve Chart. Offer one hint level at a time if wanted.

6 minutes: Solve Keeper. Offer one hint level at a time if wanted.

5 minutes: Solve Read. Offer one hint level at a time if wanted.

4 minutes: Solve Point. Offer one hint level at a time if wanted.

5 minutes: Use the five results on the final sheet.

2 minutes: Read the ending and thank each teammate.

Paper completion: check each badge against the solution guide, then check the final code. No device is required.

The chart order is recovered. The observatory team can draw its own new constellation. Thank your team for checking the evidence together. Confirmed final control code: 69259.

Duration and ages are estimates. Adjust pace and offer help for your group.

Observatory Night Chart

Player clue 1: Label | Team 1

The observatory has a near-match star label, two different chart copies and a telescope keeper list. Restore the reading order for tonight’s imaginary sky. Find five badge digits, then use the final sheet. Help each other and ask for hints.

Label desk: Find the exact word STAR, reading RIGHT only. Reject near matches and reversed words. Copy the digit immediately after it.

Find STAR; only read to the RIGHT.

S	T	A	X	8	A	B	C
R	A	T	S	2	A	B	C
S	T	A	R	6	D	E	F
C	A	M	P	9	S	U	N

Answer = digit in the next square after the word.

Label badge: _____

Observatory Night Chart

Player clue 2: Chart | Team 1

Chart desk: Compare the two records at matching numbered positions. Count different pairs once each; ignore box outlines.

Compare matching numbered positions.

A

















1

2

3

4

5

6

7

8

B

















1

2

3

4

5

6

7

8

Do not count title, labels, or boxes as differences.

Chart badge: _____

Observatory Night Chart

Player clue 3: Keeper | Team 1

Keeper desk: Each person has ONE different item. Use all four NOT rules.
Find Rigel's item and copy its digit.

Scope digit 3	Chart digit 6	Pen digit 9
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People: Vega, Rigel, Deneb

- Vega does NOT have Pen.
- Rigel does NOT have Scope.
- Rigel does NOT have Chart.
- Deneb does NOT have Scope.

Find Rigel's item. Each item is used once.

Keeper badge: _____

Observatory Night Chart

Player clue 4: Read | Team 1

Read desk: Combine every BEFORE rule to order the four actions. Write positions on the whole-sheet cards. Read position 4.

Set scope [8]	Record sky [2]
Read chart [0]	Open roof [6]

- Open roof BEFORE Read chart
- Set scope BEFORE Record sky
- Read chart BEFORE Record sky
- Open roof BEFORE Set scope
- Set scope BEFORE Read chart

Read position 4 (positions start at 1).

Read badge: _____

Observatory Night Chart

Player clue 5: Point | Team 1

Point desk: Start at S. Follow EVERY arrow one square, including revisited cells. Record only the endpoint digit.

S: 7	9	1	3
0	2	4	6
3	5	7	9

right > down > right > up > right > down > down

One arrow = one square. S = start.

Point badge: _____

Observatory Night Chart

Player clue 6: Final | Team 1

Read your five badge digits in the printed order. Join them with no spaces, keeping zeroes.

Label ?	Keeper ?	Read ?	Chart ?	Point ?
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Read left to right. Keep every digit, including zero.

Final badge: _____

Need help? Ask your host for one hint at a time.

Observatory Night Chart

Hint cards - level 1 (spoilers; keep with host)

1. Label

Start at S and check every letter.

2. Chart

Compare position 1 with position 1, not with a nearby matching shape.

3. Keeper

No item can belong to two people. Cross out each forbidden pairing.

4. Read

The printed cards are deliberately out of order.

5. Point

Move one square for each arrow. A revisit still counts as a move.

6. Final

Keep all five named badge results beside this sheet.

Observatory Night Chart

Hint cards - level 2 (spoilers; keep with host)

1. Label

The exact word starts in row 3, column 1. Check its letters against the target.

2. Chart

Position 1 is one difference: hexagon in A, square in B. Mark it once.

3. Keeper

Rigel cannot have two items, so Rigel must have Pen.

4. Read

Open roof must come first. Work out which action comes directly after it.

5. Point

After the first 3 arrows, you are at row 2, column 3. Continue from there.

6. Final

Begin with Label, then Keeper.

Observatory Night Chart

Hint cards - level 3 (spoilers; keep with host)

1. Label

In that row, copy column 5, the cell immediately after the complete word.

2. Chart

Compare the remaining numbered pairs one by one. Add one mark for each unequal pair, then count all your marks.

3. Keeper

Cross Pen off for the other two people. Apply the last NOT rule, then find Rigel's item.

4. Read

The first two actions are Open roof, then Set scope. Finish the chain and read position 4.

5. Point

From that checkpoint follow up, right, down, down. Copy the last cell.

6. Final

Copy one digit per printed badge box from left to right. Do not sort by clue number; zero remains a digit.

Observatory Night Chart

Team 1 badge record (no cutting needed)

Write a digit beside each badge as you solve its clue.

Label: _____

Chart: _____

Keeper: _____

Read: _____

Point: _____

Reader: reads the clue. Recorder: writes the digit. Path finder: traces routes. Swap roles every clue.

Observatory Night Chart

Team 1 paper unlock card

Our five badges are ready. We used the final sheet to find this code:

Host: compare this with your solution guide. When it matches, read the ending and celebrate.

No physical lock or prize is required. You may draw a celebration star on this card.

Observatory Night Chart

You're invited to a birthday mystery!

Join Birthday Explorer for Observatory Night Chart.

Recover the observatory chart reading order.

Date: _____

Time: _____

Place: _____

Bring your curiosity. Paper and pencils are provided. Work together, share ideas and solve six clues.

Designed for ages 8-10. Estimated 30-45 minutes.

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Observatory Night Chart

Birthday Mystery Explorer

Presented to Birthday Explorer

Team member: _____

For completing Observatory Night Chart with curiosity,
teamwork and kindness.

The chart order is recovered. The observatory team can draw its
own new constellation. Thank your team for checking the evidence
together. Confirmed final control code: 69259.

Date: _____

Host signature: _____

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