MEMUNIC SPACE EXPLORERS

Memoon and the Secret Rainbow

Adventures with Memoon and Friends

Book 10 · Grade 10



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Book 10 · Grade 10 · Ages 15 to 16 · Independent reading

About this book

Published November 2026.

The Memunic characters and world belong to the series creator. The illustrations were made with AI image tools from the series character descriptions and checked by hand against the official reference sheet, so they may differ slightly from the official artwork. The diagrams were drawn by hand for accuracy, and each says what it simplifies.

The science was fact-checked on 3 November 2026 against the sources listed at the back. The numbers in the story that are invented for practice are marked as invented. Talking animals and Imagine Mode are only in the story.

Safety first. Never look straight at the Sun, and never point binoculars, a telescope or the spectroscope near it. Adults should supervise every activity, and night sky-watching always needs an adult. Never shine a torch into anyone's eyes, and never break a fluorescent lamp.

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THE CLUB

Meet Memoon and her friends

Memoon is curious and kind. She loves animals and learns by asking questions and trying things out.

Noodles the fluffy ginger cat has big feelings and a silly side.

Kachui the turtle thinks slowly and carefully, and keeps the notes.

Nimo the little blue fish is wise, and always floats in his bubble.

Beautine the squirrel loves a little drama and a big plan.

Simbha the lion is gentle and affectionate, and keeps the Question Jar.

Guddu is Memoon's older cousin, about sixteen, who joins by video call.

Mr Rao and Mrs Rao are neighbours in the apartment society. He has a storeroom of useful old things, and she has chairs and hot milk.

Story note: talking animals are only in the story. Real animals do not talk.

HOW TO READ THIS BOOK

Be a Space Detective

This book asks a big question: why do stars twinkle and planets do not? To answer it, the Club has to measure light, build instruments and be honest about what the evidence can and cannot say.

> **The Evidence Ladder.** A good claim comes with its evidence, its limit and a confidence level: strong, good, plausible, or we cannot say.

Keep a Sky Notebook. In every chapter, notice, ask, predict, test, compare and explain. When an analogy or model appears, ask what it shows well and where it stops working.

> **The most important rule:** we never look straight at the Sun.

CHAPTER 1

The Twinkle Slip

In this chapter: State the twinkling mystery as a testable question, reject explanations that the evidence does not support, and design a comparison that separates "something about the star" from "something between the star and us".

The slip of paper had been in the Question Jar for eleven days, and Simbha was embarrassed by it.

It was a January evening, the kind of clear, dry, cool evening that makes a terrace feel like the deck of a ship. The Rooftop Sky Club had dragged out its folding chairs, the red-filtered torch, the thermos of ginger tea that Mr Rao pretended not to have sent up, and the Club logbook, which had grown fat since the days of mats and torches. Memoon sat cross-legged with her Sky Notebook open on her knee. Her pencil was already moving.

"Read it again," she said. "The slip, not the log."

Simbha cleared his throat. A lion clearing his throat is a serious event; the water in Kachui's cup rippled. "Entry from the Jupiter nights," he read. "Sirius: bright, white, flickers constantly, sometimes flashes red and green. Jupiter: bright, white-gold, perfectly steady. Question: Why does one dazzling light dance and the other sit still like a lamp?"

"And what did you write underneath?" asked Kachui, who never missed anything that was written underneath.

Simbha lowered his great head. "I wrote, 'Because stars are alive and planets are not.'"



The Sky Club on a cold January evening. Sirius flickers; Jupiter does not.

Noodles laughed so hard he fell off his chair. “Alive! Simbha, a star is a huge ball of burning gas!”

“Fusing gas,” said Beautine from the top of the water tank, where she had gone to be dramatic. “Not burning. Fusing. We had an entire book about it. Stars are not alive, they are *furious*, there is a difference.”

“I know that now,” said Simbha, with dignity. “I wrote it when I was tired. That is exactly why it is a slip. Every Sky Club member is allowed one wrong idea per notebook, and then we must fix it.”

Memoon looked up from her page. “Then let’s fix it properly. Not with a clever answer. With a test.”

She drew two bright dots in her notebook and a question mark between them. At the top she wrote the question in her neatest handwriting: *Why do stars twinkle and planets (mostly) do not?* Underneath, because Book 9 had taught her to be honest about what she was assuming, she added: *Assumption 1: what we see tonight is typical. Assumption 2: Jupiter is the planet in the east. Check both.*

The Club turned east. Low above the rooftops of the neighbouring flats, a steady point of gold-white light hung in the dark like a hole punched in the sky and lit from behind. Jupiter. Higher and further south, brilliant and restless, was Sirius, the brightest star in the night sky, stuttering through colours as if someone were switching tiny lamps behind it.

“Right,” said Noodles, recovering from the fall and dusting off his fur. “First theory. Sirius is brighter than Jupiter, so it twinkles more. Bright things flicker. Fireworks, torches, lightning.”

Beautine slid down the pipe in one long, theatrical movement and landed next to the logbook. “I can check that one. Sirius is the brightest star at about magnitude minus one point four six. Jupiter is brighter than that tonight, nearer minus two.”

“Brighter,” said Kachui slowly, “and steady.” He did not say *so your theory fails*. He simply let the sentence stand in the cold air, and everyone could hear it fail by itself.

Noodles scratched his ear. “Fine. Second theory. Sirius is far away and Jupiter is close. Far things flicker because the light struggles to get here.”

“That is a better guess,” said Memoon, “because it uses a real difference. Sirius is about nine light-years away. Jupiter is a few light-minutes. Remember Book 6: a light-year is a distance, and light from Sirius has travelled for nearly nine years.” She tapped her pencil on her lip. “But how would a long journey make light flicker? If I send a torch beam across a field, it does not start dancing just because the field is long.”

“It does if there is a heat haze,” said Nimo. His bubble drifted up the rim of the water tank, and he looked at the air above the terrace floor with professional interest. “I mean on a hot day. Over the tar road, everything wobbles. I have watched it from the drain.”

Memoon stopped. She looked at Nimo, then at the dark, still, cold terrace, then at Sirius, then back at Nimo. “A haze. Not on the road tonight. But somewhere.”

“I do not like theories without evidence,” said Kachui, “and I have none. But I do have data.” He pulled the logbook toward him with one flipper and turned the pages with the patience of a turtle who has been turning pages since before the Club had a name. “On the nights I watched, I counted Sirius’s flickers in thirty seconds. When Sirius was low, just above the buildings, I counted twenty-six. A few hours later, when it was high in the south, almost overhead, I counted nine.”

“Nine,” repeated Beautine. “Only nine? That is an outrage. Last year I counted fifty-seven.”

“Beautine,” said four voices at once.

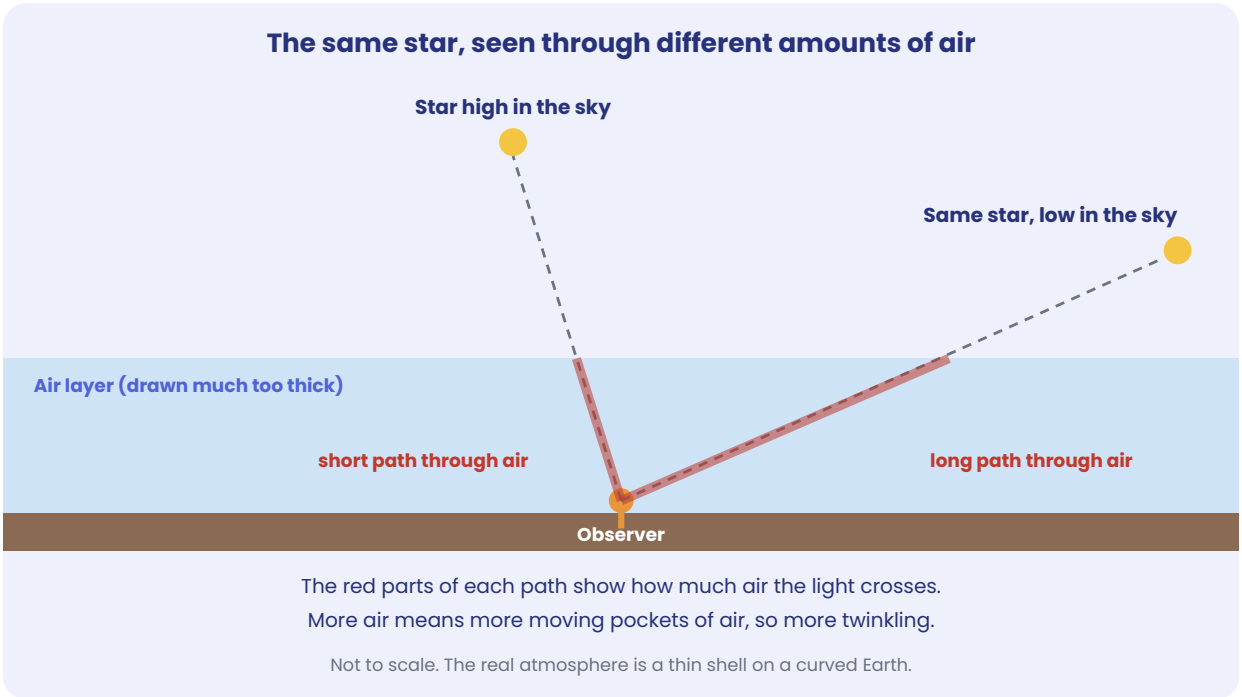
“Thirty-one,” she said, mildly. “Perhaps thirty-one. It was dramatic at the time.”

Memoon ignored the squirrel’s arithmetic and stared at the numbers. “Kachui, that is the most important thing anyone has said tonight. It is the same star. Same distance, same brightness, same Sirius. But low in the sky it twinkles more, and high in the sky it twinkles less.”

Simbha’s ears came up. “So whatever makes it twinkle cannot be a *property of Sirius*. Because Sirius did not change between the two counts. The only thing that changed was where we were looking.”

“Or rather,” said Memoon, “how much of something we were looking through.” She wrote it in big letters and boxed it: **Clue 1. Same star, different twinkle. So the cause is probably between the star and us.**

Noodles sat up. “That means the sky is doing it. The sky is wobbling.”



One star, two lines of sight. The lower one crosses more air. Not to scale.

“The air,” said Nimo. “Air is a fluid, like water. If water in my pond is warm in one place and cool in another, light bends strangely at the edges. I have seen the bottom of the pond shimmer. Maybe the sky does the same.”