

FLEYDO ENGLISH SCHOOL

Story Material

The Ice Journals

A thrilling adventure about two teenagers on a school expedition to Norway who discover a frozen journal from the 19th century.

Level: B1 (Intermediate)**Age Group:** Teens (11-16)**Skill:** Reading**Topic:** Science & Adventure**Duration:** ~50 minutes**Pages:** 28 story pages

Learning Objectives

- ✓ Read and understand a B1-level adventure story about Arctic science
 - ✓ Learn 20 new vocabulary words highlighted in context
- ✓ Practise reading comprehension with multiple-choice questions
- ✓ Understand themes of scientific discovery and climate change
 - ✓ Discuss preserving and sharing scientific knowledge

*Note: In the online version, **highlighted vocabulary words** have hover definitions.*

Part 1 — The Story

Chapter 1: The Journey North

The bus had been climbing steadily for three hours, winding through narrow valleys where waterfalls crashed down from cliffs that seemed to touch the clouds. Sam pressed his face against the cold window and watched the landscape transform. The green meadows of southern Norway had given way to bare rock, patches of stubborn snow, and vast empty spaces where nothing moved except the wind. He was one of sixteen students from Greenfield Academy who had been selected for the annual Arctic Science **expedition**, and despite the early start and the cramped bus seats, he could feel excitement building in his chest like a slow wave.

Their destination was the Svartisen **glacier**, one of the largest ice fields in mainland Norway. For the next ten days, they would camp at a research station near the glacier's edge, studying ice cores, measuring meltwater, recording **meteorological** data, and learning about how climate change was reshaping the Arctic landscape. Their teacher, Dr. Hanssen, was a Norwegian geologist who had spent twenty years studying glaciers. He was a quiet, serious man with grey eyes and weathered hands, but when he talked about ice, his whole face lit up with passion. "Glaciers are libraries," he had told them at the pre-trip briefing. "Every layer of ice contains information about the climate at the time it was formed. Some of the ice we will study is over a thousand years old."

Sam's lab partner for the trip was Yuki Tanaka, a girl from the year above him who was the best science student in the school. She was sitting across the aisle, reading a thick book about glaciology and making notes in the margins with a mechanical pencil. They had not spoken much before the trip, but Sam had heard that she was planning to study environmental science at university and had already published a paper on microplastics in river systems. She noticed him looking and raised an eyebrow. "Nervous?" she asked. "Excited," Sam said, which was mostly true. Yuki smiled. "Good. Because according to Dr. Hanssen, the glacier has been **retreating** faster than expected this year. There might be things under the ice that have not seen daylight for centuries." She turned back to her book, but Sam noticed a spark in her eyes that matched the one he was feeling.

Chapter 2: The Glacier

The research station was a collection of red wooden cabins at the base of a valley, surrounded by mountains on three sides and the glacier on the fourth. The Svartisen glacier was like nothing Sam had ever seen. It was an enormous wall of blue-white ice, cracked and grooved with deep crevasses, stretching up the mountainside as far as he could see. The air near it was sharp and cold, and the silence was almost overwhelming — broken only by the distant drip of meltwater and the occasional crack and groan as the ice shifted and settled. "It is alive," Yuki whispered, standing beside him at the edge of the moraine. "The ice moves, breathes, grows, and shrinks. It is like a living thing."

For the first three days, they worked through a structured programme: learning to take ice core samples, measuring the depth and temperature of meltwater streams, cataloguing the **indigenous** plant species that grew on the exposed rock where the glacier had retreated, and recording weather data every six hours. Sam discovered that he loved fieldwork. There was something deeply satisfying about collecting real data in a real environment, feeling the wind on his face and the cold in his fingers while doing science that actually mattered. On the fourth morning, Dr. Hanssen gathered the group and pointed to a section of the glacier's edge where the ice had recently collapsed, revealing a wall of dark rock and compacted earth. "The **glacier** has retreated about forty metres since last summer," he said. "That section of ground has been under ice for approximately one hundred and fifty years. We are going to survey it today."

Chapter 3: The Discovery

Sam and Yuki were assigned to the eastern section of the newly exposed ground. They worked methodically, photographing the rock formations, collecting soil samples, and tagging any objects they found with GPS **coordinates**. Most of what they found was unremarkable: stones, gravel, fragments of ancient wood. But just before lunch, Sam's boot caught on something protruding from the frozen mud. He knelt down and brushed away the dirt carefully. It was a leather strap, dark brown and stiff with age, attached to what appeared to be the corner of a bag or case. "Yuki," he called. "Come and look at this."

Together, they excavated the object with the care and patience that Dr. Hanssen had taught them. It took almost an hour. What emerged from the ice was a leather satchel, remarkably well **preserved** by the cold. The leather was cracked but intact, and the brass buckles, though green with age, still functioned. Inside the satchel were three items: a small brass compass, a glass vial containing dried plant material, and a notebook bound in oilskin. Sam opened the notebook with trembling hands. The first page, written in neat but faded ink, read: "Field Journal — Dr. Astrid Lindqvist — Norwegian Arctic Expedition — 1897." Yuki looked at Sam. Sam looked at Yuki. "We need to show this to Dr. Hanssen," she said. "Right now."

Chapter 4: Dr. Lindqvist

Dr. Hanssen's reaction was extraordinary. When he saw the journal, his hands began to shake. He sat down on a camp chair and stared at the name on the cover for a full minute before speaking. "Astrid Lindqvist," he said quietly. "I know this name. She was a **pioneer** — one of the first women to lead a scientific **expedition** in the Arctic. She was a botanist and **ecology**ist from the University of Christiania, which is now the University of Oslo. In the 1890s, she made three expeditions to northern Norway to study Arctic plant life. She was decades ahead of her time."

He paused, his expression darkening. "Her third expedition, in the autumn of 1897, was her last. She set out with two assistants to study the plant communities near Svartisen. They were supposed to return to the nearest town after six weeks, but they never arrived. A search party found one of her assistants, who had suffered severe frostbite and was barely

alive. He said that Dr. Lindqvist had insisted on continuing further up the glacier to investigate something she had found. A storm came in, and they were separated. She was never seen again." Sam looked at the satchel in his hands. "So this belonged to her. She must have dropped it, or left it behind, before the storm." "And the glacier swallowed it," Yuki said. "And now, a hundred and twenty-eight years later, the ice has given it back."

Chapter 5: Decoding the Journal

Dr. Hanssen allowed Sam and Yuki to study the journal, provided they wore gloves and handled it with extreme care. The pages were fragile but legible, written in a mixture of Norwegian and English — Lindqvist had studied in Edinburgh and often switched between languages. Over the next two evenings, with help from Dr. Hanssen's translations, they read the entire journal. It was a **meticulous** record of her third expedition: daily weather observations, detailed descriptions of the **terrain**, hand-drawn maps of the glacier's position in 1897 (significantly larger than today), and beautiful illustrations of the plant **specimens** she had collected.

But the most fascinating entries were from the final two weeks. Lindqvist had discovered something unexpected on the exposed rock near the glacier's edge: a community of plants that should not have been there. Species that normally grew hundreds of kilometres further south were thriving in a sheltered valley at a **latitude** of 67 degrees. Her **hypothesis** was remarkable: she believed that the glacier had once been much smaller, that the valley had been ice-free for thousands of years before a period of cooling caused the glacier to advance, and that these plants were survivors — **resilient** remnants of a warmer era, clinging to life in a protected microclimate. "If my theory is correct," she wrote, "then the ice is not permanent. It comes and goes. And the life beneath it waits."

Chapter 6: The Valley

The journal's final entries contained detailed **coordinates** for the valley where Lindqvist had made her discovery. Sam and Yuki plotted them on a modern map and realised that the location was only about four kilometres from their current camp — but in a section of the glacier that had been considered too **treacherous** to explore on foot. "The glacier has retreated significantly since 1897," Yuki said, studying the satellite imagery on her tablet. "The valley she described might actually be accessible now. Look — this ridge here was under hundreds of metres of ice in her time, but now it is completely exposed." Sam felt a surge of adrenaline. "We should go and look."

Dr. Hanssen was cautious but intrigued. He studied the coordinates, consulted with the station's safety officer, and finally agreed to lead a small group to the site the following morning. "We will take proper equipment, follow the safe route along the moraine, and turn back immediately if conditions **deteriorate**. Is that clear?" The hike took three hours over rough, rocky ground littered with boulders deposited by the retreating ice. The weather was clear but cold, with a sharp wind blowing down from the mountains. Sam's legs ached and his fingers were numb, but he barely noticed. He was walking in the footsteps of a scientist who had been here a hundred and twenty-eight years ago, and he could almost feel her presence

beside him.

Chapter 7: The Living Archive

They found the valley exactly where Lindqvist's **coordinates** indicated. It was a narrow, sheltered depression between two ridges, protected from the worst of the wind and facing south towards the sun. The floor of the valley was covered in a thick carpet of vegetation — mosses, lichens, small flowering plants, and even a few dwarf shrubs — that seemed impossibly lush compared to the barren landscape surrounding it. "Incredible," Dr. Hanssen breathed, kneeling down to examine the plants. "Some of these species are typically found much further south. This is exactly what Lindqvist described."

But there was more. At the far end of the valley, where the rock wall met the remains of the glacier, they found something that made everyone stop in their tracks. Emerging from the thawing **permafrost** were the remains of ancient tree roots — birch trees, based on the bark fragments — perfectly preserved in the frozen ground. "These trees grew here thousands of years ago," Dr. Hanssen said, his voice filled with awe. "Before the glacier advanced and covered this valley. Lindqvist was right. She understood that glaciers are not permanent features — they advance and retreat over centuries and millennia in response to climate changes. And the life beneath them does not die. It waits." Yuki took photograph after photograph, her hands shaking with excitement. "She figured this out in 1897," she said. "Without satellite data, without carbon dating, without any of the technology we have today. Just by observing and thinking."

Chapter 8: The Revelation

Back at the research station, Dr. Hanssen made several phone calls and sent emails to colleagues at the University of Oslo, the Norwegian Polar Institute, and the Norwegian Glacier Museum. The response was immediate and enthusiastic. Within forty-eight hours, a team of senior scientists arrived by helicopter, bringing specialised equipment for sampling and dating the ancient plant material. Professor Eriksen, the head of Arctic **ecology** at the University of Oslo, examined Lindqvist's journal with tears in her eyes.

"This is a **revelation**," she told Sam and Yuki as they sat around the campfire that evening. "Astrid Lindqvist made one of the most important observations in the history of Arctic science, and it has been buried under ice for over a century. Her work anticipated modern theories about glacial retreat and ecosystem resilience by almost a hundred years. If her journal had been found at the time, it could have changed the direction of climate science." She paused and looked at the two teenagers. "And now her discovery is more relevant than ever. The glaciers are **retreating** faster than at any point in recorded history. Understanding how ecosystems respond to glacial retreat — how life persists and recovers — is one of the most important questions in environmental science today. Lindqvist gave us a piece of the answer, and you two brought it back to light."

Chapter 9: Recognition

The discovery made international news. Dr. Lindqvist's journal was carefully transported to the University of Oslo, where it was professionally conserved and digitised. The university announced the establishment of the Lindqvist Arctic Research Programme, a new initiative dedicated to studying the effects of glacial retreat on Arctic ecosystems. Sam and Yuki were invited to Oslo for the official launch, where they stood in the university's grand hall alongside Professor Eriksen, Dr. Hanssen, and a portrait of Astrid Lindqvist — a determined-looking woman with sharp eyes and a fur-lined collar, painted in the formal style of the 1890s.

"Dr. Lindqvist was a **pioneer** who was not recognised in her own time," Professor Eriksen said in her speech. "She was a woman in a field dominated by men, working at the edges of the known world, pushing the boundaries of scientific understanding. Her **legacy** was lost for over a century. But thanks to two young scientists from England — Sam and Yuki — her work has finally received the recognition it deserves." The audience applauded. Sam's cheeks burned. Yuki nudged him. "Not bad for a school trip," she whispered. He laughed. "Not bad at all." After the ceremony, they walked through the university campus in the autumn sunshine. "What do you think Lindqvist would say if she could see all this?" Sam asked. Yuki thought for a moment. "I think she would say: 'I told you so. Now go and do something about it.'"

Chapter 10: The Return

Six months later, Sam stood at the window of his bedroom in Bristol, watching the rain fall on the grey streets below. On his desk were his university application forms. He had already filled in his first choice: Environmental Science at the University of Edinburgh — the same university where Astrid Lindqvist had studied over a hundred and thirty years ago. Next to the forms was a framed photograph of the valley near Svartisen, taken by Yuki on the day of their discovery. The carpet of green plants against the grey rock and white ice looked like a promise — proof that life could survive even the longest, coldest winters.

His phone buzzed. It was a message from Yuki: "Professor Eriksen says the birch root samples have been carbon-dated. They are 4,200 years old. The valley was ice-free during the Bronze Age. Lindqvist was right about everything. Also, she wants us to come back to Svartisen next summer as research assistants. Are you in?" Sam typed his reply without hesitation: "I am in." He looked at the photograph one more time. Somewhere in northern Norway, a glacier was slowly shrinking, revealing ground that had been hidden for centuries. And in a sheltered valley between two ridges, ancient plants were growing towards the sunlight, patient and **resilient**, just as they had always been. The ice gave things back, eventually. You just had to be there when it did.

The End

Science is not always about laboratories and equations. Sometimes it is about walking into the unknown, asking questions that nobody else is asking, and having the courage to follow the evidence wherever it leads. Astrid Lindqvist knew this in 1897. Sam and Yuki learned it on a school trip to a glacier. And somewhere under the ice, there are

more stories waiting to be found. The question is: who will be the one to find them?

Part 2 — Key Vocabulary

Words shown in **teal bold** in the story are listed below.

Word	Type	Definition
glacier	<i>noun</i>	a huge mass of ice that moves very slowly over land
expedition	<i>noun</i>	an organised journey with a particular purpose, especially exploration
preserved	<i>adjective</i>	kept in its original state; prevented from decaying
hypothesis	<i>noun</i>	an idea or explanation that is tested through study and experimentation
specimen	<i>noun</i>	an example of something, especially an animal or plant, used for study
terrain	<i>noun</i>	an area of land, especially in terms of its physical features
meteorological	<i>adjective</i>	relating to the study of weather and climate conditions
latitude	<i>noun</i>	the distance of a place north or south of the equator
pioneer	<i>noun</i>	a person who is among the first to explore or develop something new
ecology	<i>noun</i>	the study of how living things relate to each other and their environment
retreating	<i>verb</i>	moving back or away from a position
treacherous	<i>adjective</i>	dangerous and unpredictable; not safe
meticulous	<i>adjective</i>	very careful and precise, paying great attention to detail
coordinates	<i>noun</i>	numbers used to show the exact position of a place on a map
permafrost	<i>noun</i>	ground that remains frozen for two or more years
resilient	<i>adjective</i>	able to recover quickly from difficult conditions
deteriorate	<i>verb</i>	to become worse in quality or condition over time
indigenous	<i>adjective</i>	naturally existing in a place; native to an area
revelation	<i>noun</i>	a surprising and previously unknown fact that is made known
legacy	<i>noun</i>	something left behind by someone from the past

Part 3 — Comprehension Quiz

Answer these questions about the story.

Question 1

Where did the school expedition take place?

- The Alps in Switzerland
- The Svartisen glacier in Norway
- The ice fields of Greenland
- A volcano in Iceland

Question 2

What did Sam find protruding from the frozen mud?

- A metal tool
- An animal bone
- A leather strap attached to a satchel
- A piece of ancient wood

Question 3

Who was Dr. Astrid Lindqvist?

- A famous Norwegian painter
- A 19th-century Arctic botanist and ecologist
- A modern climate scientist
- The school's headteacher

Question 4

What happened to Dr. Lindqvist on her third expedition?

- She returned safely with her findings
- She was separated from her team during a storm and never found
- She decided to stay and live in the Arctic
- She became ill and returned early

Question 5

What was Lindqvist's important hypothesis?

- That the Arctic was getting colder
- That glaciers are permanent and never change
- That glaciers advance and retreat, and life survives beneath them
- That Arctic plants can grow anywhere in the world

Question 6

What did the team find in the sheltered valley?

- A frozen animal
- Gold and silver coins
- Lush vegetation and ancient preserved tree roots
- An abandoned research station

Question 7

How old were the birch root samples found in the valley?

- About 500 years old
- About 4,200 years old
- About 10,000 years old
- About 100 years old

Question 8**What was established in Dr. Lindqvist's honour?**

- A new glacier park
- The Lindqvist Arctic Research Programme
- A museum in her hometown
- A scholarship for women in science

Question 9**What university did Sam choose for his application?**

- University of Oslo
- University of Bristol
- University of Edinburgh
- University of Cambridge

Question 10**What did Sam and Yuki plan to do the following summer?**

- Travel around Europe
- Return to Svartisen as research assistants
- Write a book about their discovery
- Start their own expedition company

Answer Key

#	Ans	Question
1	B	Where did the school expedition take place?
2	B	What did Sam find protruding from the frozen mud?
3	B	Who was Dr. Astrid Lindqvist?
4	B	What happened to Dr. Lindqvist on her third expedition?
5	C	What was Lindqvist's important hypothesis?
6	C	What did the team find in the sheltered valley?
7	B	How old were the birch root samples found in the valley?
8	B	What was established in Dr. Lindqvist's honour?
9	C	What university did Sam choose for his application?
10	B	What did Sam and Yuki plan to do the following summer?

Thank you for reading! Visit www.fleydo.com for more stories and materials.