



## Overview

In 1961, Soviet cosmonaut Yuri Gagarin was the first person to complete a single orbit of Earth in a flight that was dangerous and, in parts, secretive. The author recreates the journey, using a range of present verb forms to recount the launch and flight. He intersperses the recount with information about the spaceship, the route, and Gagarin's return to Earth. The article ends with information (in a past time-frame) about what happened to Gagarin after his return.

Supportive photographs, diagrams, a map, and reproductions of contemporary items, along with the immediacy of the writing style, make this an engaging read for students, with opportunities for discussions about space, technology, and the attributes of pioneers.

Texts related by theme

“One Small Step” SJ 4.3.09

“The Space Race” SJ 3.2.07

“Postcards in Space” SJ 3.3.00

## Text characteristics from the year 6 reading standard

a significant amount of vocabulary that is unfamiliar to the students (including academic and content-specific words and phrases), which is generally explained in the text by words or illustrations

illustrations, photographs, text boxes, diagrams, maps, charts, and graphs that clarify or extend the text and may require some interpretation

figurative and/or ambiguous language that the context helps the students to understand

The Flight Path of *Vostok 1*



An hour since lift-off. The spacecraft has passed the bottom of South America and is over the South Atlantic. Gagarin's night has lasted just forty minutes. Now he's flashing towards the daytime side of the planet, with the sky turning orange and then blue ahead of him. *Vostok 1*'s flight plan sends it curving up across the Atlantic towards Africa. There are still 8000 kilometres before it is due to reach its landing site – and the most dangerous part of the mission is approaching. The retro-rockets – the ones that will slow the spacecraft and start it descending towards Earth – are about to be fired.

Seventy-five minutes after lift-off. The retro-rockets fire. They work perfectly, burning for forty-two seconds as the capsule heads across Africa towards Egypt. Mission control starts the sequence to separate the re-entry module, with Gagarin inside, from the rest of the spacecraft.

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Then, trouble. The two parts of the spacecraft don't separate properly. A bundle of wires is still holding them together. *Vostok 1* spins and twists wildly, somersaulting through the sky. Gagarin is startled but doesn't panic. "OK," he reports. "OK." Will he have to take the emergency key and try to land the re-entry module?

No. After five long, scary minutes, the wires break. *Vostok 1* speeds on, lower and lower over Turkey, back towards Russia. It rushes down through Earth's atmosphere. Gagarin is battered by forces of 8 g – eight times the force of gravity – but he keeps talking. The landing site is getting closer.

And now comes the moment that nobody outside the mission will know about for nearly twenty years. For *Vostok 1*'s mission to be seen as a proper human orbit of Earth, Gagarin should stay on board from lift-off to touchdown. But he doesn't. (Why? Because early Russian spacecraft always touched down on land. Often, they hit the ground at high speed in spite of their retro-rockets and parachutes. Mission control was afraid that if Gagarin stayed on board, there would be a high chance of the first cosmonaut being killed as he landed.)



some ideas and information that are conveyed indirectly and require students to infer by drawing on several related pieces of information in the text

sentences that vary in length and structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses)

Reading standard: by the end of year 6

## Possible curriculum contexts

### SCIENCE (Planet Earth and Beyond)

LEVEL 3 – Astronomical Systems: Investigate the components of the solar system, developing an appreciation of the distances between them.

### ENGLISH (Reading)

LEVEL 3 – Purposes and Audiences: Show a developing understanding of how texts are shaped for different purposes and audiences.

### ENGLISH (Writing)

LEVEL 3 – Purposes and Audiences: Show a developing understanding of how to shape texts for different purposes and audiences.

### Possible reading purposes

- To find out the events and facts involved in the first orbit of Earth
- To compare early space exploration with more recent developments
- To find out about Yuri Gagarin.

See [Instructional focus – Reading](#) for illustrations of some of these reading purposes.

### Possible writing purposes

- To recount an important event, including facts and information
- To explain how objects can orbit in space
- To research and describe another space “first”.

See [Instructional focus – Writing](#) for illustrations of some of these writing purposes.

## Text and language challenges

### VOCABULARY:

- Possible unfamiliar and/or specialist words and phrases, including “launch pad”, “Kazakhstan”, “cosmonaut”, “Soviet Union”, “orbit”, “lift-off”, “the speed of sound”, “capsule”, “programmed”, “static”, “mission”, “daytime side of the planet”, “flight plan”, “retro-rockets”, “re-entry module”, “atmosphere”, “proper”, “touchdown”, “parachutes”, “hatch”, “automatically”, “minus 30 degrees Celsius”, “pressure suit”
- Action and descriptive verbs: “fires”, “piloting”, “blurred”, “skims”, “flashes”, “rushing”, “spins”, “hurtles”, “flashing”, “curving”, “descending”, “twists”, “somersaulting”, “startled”, “rushes”, “battered”, “ejected”, “tumbling”, “drifts”, “unclips”
- Colloquial expression: “not exactly spacious”
- Use of language for time, distance, and temperature.

### Possible supporting strategies

Review what students know about space exploration, asking them to brainstorm the vocabulary they would expect to find in an article on the topic. List the words on a chart and add to it after reading. OR do this while exploring the topic – see below.

Review the labelled diagram before reading to support students with the vocabulary.

Check that students are familiar with the ways that time, distance, and temperature are written.

Identify the topic words students need to learn, for example, “planet”, “pilot”, “speed of sound”, “atmosphere”. Plan ways for students to encounter, practise, and review these words in multiple contexts.

*The English Language Learning Progressions: Introduction*, pages 39–46, has some useful information about learning vocabulary.

### SPECIFIC KNOWLEDGE REQUIRED:

- Knowledge about the history of human space flight
- Knowledge of space and the areas and relative distances involved in space exploration
- An understanding of the qualities or characteristics of people who undertake dangerous missions.

### Possible supporting strategies

To build background knowledge, ask students to look at pictures, video clips, and short articles and report back on what they saw, heard, or read. Create lists as you do this. You could categorise words for people, places, equipment, and actions (including movement).

Use models to show relative distances around and between planets and other objects in space. Let them describe their observations in their own words and translate these yourself into the appropriate technical vocabulary.

### TEXT FEATURES AND STRUCTURE:

- A recount that includes explaining and describing
- The use of a range of mostly present (some future) verb forms, giving the journey an “as it happened” feel
- Use of time and place language to signal each stage of the journey (“It’s 9.07 a.m. Moscow time. 12 April 1961.”)
- Use of dashes and parentheses, often to insert information
- Use of ellipses
- The visual images, including a newspaper page, photographs, labelled diagrams, route map, and Soviet postage stamps
- The variety of sentence structures, from single-word and note-form to complex
- The use of questions and answers to build tension.

### Possible supporting strategies

This is a dense and complex text in terms of topic, vocabulary, and structure. Depending on the level of your students, you may need to break it up and work through it slowly (with a lot of prior reading support). Some students may need extra support to understand the use of time, date, and place markers. Highlight these, pointing out the way they guide the reader through the journey.

Prompt students to make links to other texts written in a similar style and discuss their features. Discuss the possible purposes and audiences their authors might have had.

Encourage students to make links to texts in other languages they know. If students find the complicated sentences difficult to follow, break them down into smaller clauses and identify When? What? Where? Who? in each clause (particularly noting the main verbs). Then put the clauses together and identify the relationships between them.

# Instructional focus – Reading

**Science** (Planet Earth and Beyond, level 3 – Astronomical Systems: Investigate the components of the solar system, developing an appreciation of the distances between them.)

**English** (Level 3 – Purposes and Audiences: Show a developing understanding of how texts are shaped for different purposes and audiences.)

## Text excerpts from “First Up”

It’s April 1961. At a launch pad in Kazakhstan, a cosmonaut sits in a little steel cylinder on top of a huge rocket 38 metres high. The Soviet Union (as Russia and some of its neighbours were known back then) has already sent dogs, rats, flies, and chimpanzees into space. Now it’s time to see if a human being can orbit Earth.

Gagarin’s flight will make just one orbit of Earth. He isn’t going to carry out any scientific experiments. His job is to survive in space and return safely.

And now comes the moment that nobody outside the mission will know about for nearly twenty years. For *Vostok 1*’s mission to be seen as a proper human orbit of Earth, Gagarin should stay on board from lift-off to touchdown. But he doesn’t. (Why? ...

## Students (what they might do)

*Students ask and answer questions to locate the time, place, and level of the technology. They make connections and comparisons with what they know about space exploration; evaluate new information, and integrate it with information from other sources.*

*Students make connections between this and earlier information (on pages 2 and 3) about human survival in space and integrate this with their own knowledge about courage to infer that Gagarin is risking his life and must be very brave.*

*Students evaluate information in the text to identify the idea that there was a secret. They make connections between words in the text (“to be seen as a proper human orbit”) and what they know about the way records of achievement are judged. From this they infer that Gagarin’s flight might not be considered “a proper human orbit”.*

## Teacher (possible deliberate acts of teaching)

**PROMPT** students to make connections with what they already know.

- When is this text set? What language tells you this?
- What kind of text will this be? What does the opening remind you of? What do you expect to learn from it?
- Do you think it is fiction or non-fiction? Why?
- Think about what you already know about space travel. As you read, make comparisons between this 1961 journey and more recent space travel.
- What questions do you have about the story so far? Remember to use your questions to help you search for answers as you read.

*Some students may need support with identifying the use of present verb forms and sequencing language (“It’s April 1961.”, “Now”) to show events in the past. They may also need support to understand the dual time frame – that is, present tense for the journey and past tense (see text in brackets in the excerpt) for extra historical information and for what happened to Gagarin later.*

**ASK QUESTIONS** to support students to make inferences as they read.

- What clues so far helped you infer that Gagarin risked his life? OR What can you infer about Gagarin? What evidence from the text shows this?
- What further inferences can you make about the kind of person he was? Does he remind you of people you know about?
- When you compare his journey with other manned space flights, what can you infer about the risks involved?

**ASK QUESTIONS** to help students integrate information in the text.

- Why does the writer say “And now comes the moment ...”? What is his purpose?
- Why do you think this information was kept secret for so long? What questions does this raise for you?
- Evaluate the style the author uses. Looking across the text, what does his style tell you about the purpose and audience he had in mind? Why do you think that?

## GIVE FEEDBACK

- I noticed how you drew on other articles about space to infer the significance of Gagarin’s flight. That’s an important part of research.
- The second diagram was hard to work out. Working together, making connections with the words in the text to work out what it shows, was a good way of using all your knowledge.

## METACOGNITION

**ASK QUESTIONS** to make the students’ strategies explicit for them.

- What does the author mean when he says, “as Russia and some of its neighbours were known back then”? How did you know that? What did you do to work it out?
- Find a place where you were puzzled by something. What puzzled you and what did you do about it?
- How would you rate this article? What criteria would you use?

Reading standard: by the end of year 6

The Literacy Learning Progressions

Assessment Resource Banks

# Instructional focus – Writing

English (Level 3 – Purposes and Audiences: Show a developing understanding of how to shape texts for different purposes and audiences.)

## Text excerpts from “First Up”

It’s 9.07 a.m. Moscow time. 12 April 1961. The giant rocket engines fire. “Off we go!” shouts Yuri Gagarin from inside his tiny spacecraft. *Vostok 1* hurtles upwards into a cold spring day.

Out over the Pacific, *Vostok 1* skims 320 kilometres above the planet. It flashes southeast above the ocean, heading for the southern tip of South America. Night is rushing towards it as Earth spins, and Gagarin reports: “The sky is turning dark blue ... violet ... black.” The craft hurtles into darkness.

Will he have to take the emergency key and try to land the re-entry module?

No. After five long, scary minutes, the wires break.

## Examples of text characteristics

### TEXT STRUCTURE

*Writers choose a structure to match their purpose and audience. By using a structure that mimics a live radio or TV commentary, the author can make readers feel they are reading about events as they unfold. The use of the present tense reinforces the sense of watching an event as it happens.*

### DESCRIPTIVE VERBS

*Strong verbs in the present tense can describe the action and convey immediacy. Some of the descriptive action verbs in this article are:*

*“skims”, “flashes”, “rushing”, “spins”, “hurtles”*

### BUILDING TENSION

*Sometimes an author asks and answers a question to build tension. The author is telling the story as if he is watching it happen, and he assumes we don’t know the answer. The use of questions and answers is a way of grabbing and holding the reader’s attention.*

### METACOGNITION

**ASK QUESTIONS** to help the students think more deeply about their writing.

- How did planning the writing help you achieve your purpose?
- How did being clear about who your audience is help you to make decisions about your writing?
- How did you decide where to add diagrams? What points did you need to clarify or show in a different way?

## Teacher

(possible deliberate acts of teaching)

**ASK QUESTIONS** to help students identify the features they can use in their writing.

- What is the impact you want to have on your readers?
- What examples of published writing could you use as a model?
- In a factual article, how can you engage your audience and convey a large amount of information? What text structures might help you do both?

**MODEL** your thinking as you evaluate the writer’s style.

- I’ve seen dates and times used like this in some news reports and “on the spot” commentaries. By using the present tense, the writer makes me feel I’m reading about history as it is being made. I infer that he wants to engage my attention for a particular purpose. I’ll keep reading to try to work out his purpose.

To support students with using the language for time and sequence, including using present forms, you could:

- select sections of the text
- highlight the time and sequencing language
- talk about how it is used (vocab, sentence structure, verb forms)
- write down the time words and phrases and perhaps the verbs to use as prompts
- have students use the prompts to retell that part of the journey (the main actions, not all of the detail)
- assign parts of the journey to pairs of students to practise retelling
- have all of the pairs retell their section so that together they retell the whole journey
- have students tell other experiences (in pairs or groups) using the same techniques. (This could be done comically in the manner of a news report or commentary.)

**MODEL** the use of descriptive verbs to add pace to the article.

- As I read this, I almost feel I have to read faster to keep up with the spacecraft. The author uses verbs that help me to understand the speed of space travel.
- Discuss how the choice of language can affect the way a text is read and why an author might want to choose particular language.

**ASK QUESTIONS** to help students review and revise their writing.

- How well have you been able to stay with your original purpose? If you’ve strayed, why is that? Do you need to make changes to fit the purpose or has the purpose itself changed?
- How will your audience react to your writing style and voice? Will they want to keep reading? How can you hold their attention?
- What can you add, strengthen, or change to convey your message better?

**GIVE FEEDBACK**

- Your plan was great, but I see you’ve changed things since then. How can you make sure the writing still meets your purpose?
- Wow, this had me on the edge of my seat. The precise verbs you’ve used really helped me to understand how risky space flight is still.
- You’ve chosen to write for very young readers. The words and the illustrations are just right.

 Writing standard: by the end of year 6

 The Literacy Learning Progressions