

You should spend about 20 minutes on **Questions 28–40**, which are based on Reading Passage 3 on pages 39–40.

Questions 28–32

The text has five sections, **A–E**.

Choose the correct heading for each paragraph, **A–E**, from the list of headings below.

Write the correct number, **i–vii**, in boxes 28–32 on your answer sheet.

- 28 Paragraph A
- 29 Paragraph B
- 30 Paragraph C
- 31 Paragraph D
- 32 Paragraph E

List of Headings

- i Preserving the beauty of the area
- ii Getting from one side to the other
- iii When the Falls stopped flowing
- iv Permanent damage to the bottom of the river
- v The involvement of two countries
- vi Physical characteristics of the Falls
- vii Depictions of the Falls

Action plan for Matching headings

- 1 If there is a *Matching headings* task, it comes before the text. This is to encourage you to read the headings before you read the text.
- 2 Check how many headings there are and how many paragraphs / sections in the text.
- 3 Read the first paragraph of the text quickly. Underline the main ideas and choose the best heading.
- 4 Do the same for the remaining paragraphs. You can only use each heading once.
- 5 There will be more headings than you need. Read the one(s) you haven't used and check that it can't go in any of the paragraphs / sections.

TIP

If you are not sure about one of the paragraphs, go back when you have done the rest of the task and you haven't got so many headings to choose from.

TIP

The headings are about the main ideas in the paragraphs / sections, not one or two details.

Advice

28 Which nations are the Falls situated in? Who controls the flow of water?

31 Section D is about bridges and boats; what is the function of bridges and boats? Which heading best reflects this function?

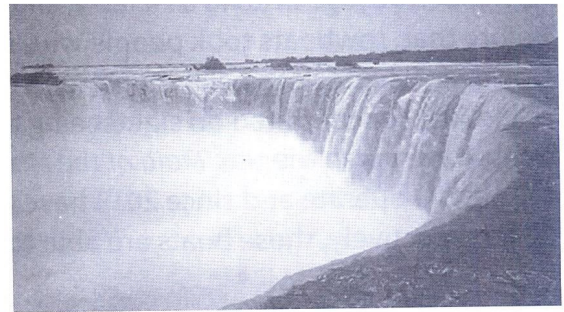


Niagara Falls

The Niagara Falls, on the Niagara River on the border between Ontario, Canada, and New York state, US, are one of North America's most famous spectacles.

A

The Falls are in two main parts, separated by Goat Island. The larger part, on the Canadian bank, is Horseshoe Falls; its height is 185 feet and the length of its curving crest line is about 2,200 feet. The American Falls, adjoining the right bank in the US, are 190 feet high and 1,060 feet wide.



The water that runs over the falls comes from the Great Lakes. Ninety percent of the water goes over the Horseshoe Falls. Originally, as much as 5.5 billion gallons of water per hour went over the Falls and, from 1842 to 1905, the site of the Falls receded upstream at an average rate of about 5.5 feet per year. Today the amount is controlled by the Canadian and American governments to slow erosion.

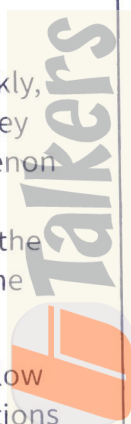
B

The first known image of Niagara Falls is an engraving by an unidentified Dutch printmaker which was first published in 1697 in a book by Father Louis Hennepin, a priest accompanying a French expedition to America. Alongside the engraving, Hennepin provided a description of the Falls, suggesting it to be over six hundred feet tall, and audible fifteen leagues away (a distance that could be the equivalent of a 15-hour walk). This turned out to be a wild exaggeration as the Falls in fact rise 170 feet. However, as the first European reporter to have seen the Falls, Hennepin's description is significant for the fact that it dominated the collective imagination of the Falls in the century to come.

C

In 1848, for the first time in recorded history, the falls ran dry. The river bed started drying quickly, leaving fish and turtles floundering. People came from miles around to explore the riverbed; they found things that had been hidden for years such as artefacts of the War of 1812. This phenomenon occurred due to strong westerly winds keeping water in Lake Erie, along with an ice jam that dammed the river near Buffalo, New York. Below the Falls, workers were able to head out onto the riverbed and clear away rocks which had been a navigation hazard to the steamboat, Maid of the Mist. It is estimated that the river stopped for 30–40 hours in total.

Later, in 1969, the US Army Corps of Engineers built a series of dams which brought the water flow over the American Falls to a small trickle. This was in order to enable a study of the rock formations at the crest of the Falls and see whether there was any way to remove the rock at the base of the American Falls. In the end, the engineers decided to let nature take its course.



D

Engineer Charles Ellet completed the first bridge across the Falls in 1948. Seven years later John Roebling oversaw construction of another suspension bridge, this one with two levels: one for carriages and the other for locomotive traffic, allowing the Grand Trunk Railway to connect from Canada to the USA. Before it was built, there was widespread doubt that a suspension bridge would be able to bear the weight of a locomotive; no bridge of this kind had ever done this. Roebling's bridge cost \$450,000 and became one of the world's most famous bridges.

Another famous attraction in Niagara Falls is the steamboat, the *Maid of the Mist*. This boat made its maiden voyage in 1846 as a ferry, charging to transport people, cargo, and mail across the river. Before that, rowboats took people who needed to get across the Niagara river below the Falls. However, when Ellet's newly constructed bridge began to diminish its business in 1848, the *Maid of the Mist* concentrated on sightseeing and took visitors very close to the Horseshoe Falls. Several boats have taken the title *Maid of the Mist* since then, and to this day, *Maid of the Mist VI* and *Maid of the Mist VII* operate and since 2013 have been leaving from the US side of the Falls only. At 74 ft and 80 ft respectively, these boats are able to carry 600 visitors a piece, right to the base of the Falls.

E

It is often asked why the water of the Niagara Falls seems to take on an aquamarine colour, which is especially intense on sunny days. The reason is that the oxygen and mineral rich waters provide a conducive environment for the growth of algae called diatoms. The bodies of diatoms behave like prisms, reflecting a sparkling aquamarine. Minerals also contribute to the water's colour; dissolved limestone, shale and sandstone form salts that tint the river, while clean and well-oxygenated water helps this effect show through.

The foam in the water at the base of the Falls is not a man-made phenomenon. It is actually calcium carbonate from the mist as it evaporates while going over the Falls. This mixes with decaying diatoms and other algae to produce the foam. Moving further downstream, it remixes with the water and disappears. While in the 1950s and 1960s there was scum from phosphates and other pollutants, this is not the case today.

