

## READING PASSAGE 2

You should spend about 20 minutes on Questions 14–27 which are based on Reading Passage 2 below.

### **Ice harvested in Norway**

In the days prior to mechanical refrigeration, in many countries with mild climates ice was a prized commodity available only to commercial enterprises and large houses with sufficient facilities for ice production in ponds and for storage. Up to the 1840s, for example, the ice available in London, restricted by the climate, was collected from lakes, and even canals such as the Regent's Canal, which runs through central London. The ice, however, was of questionable quality.

As demand grew, ice was shipped from the United States to supply the needs of merchants. That was the case until a Swiss entrepreneur by the name of Carlo Gatti, working in the London catering trade, brought a shipment of 400 tons of ice to London in 1857 from Norway. Norway then became the dominant provider of ice to London until the end of the century when mechanical refrigeration appeared on the scene. Without fridges, however, Gatti had to ensure the ice would not melt, so he had two ice wells built in Wharf Road near King's Cross.

The ice from Norway started its life in frozen lakes, some of them artificially made for the purpose of harvesting. Ice is produced when water starts freezing at 40 °F, or 5 °C, but in order to be harvested the frozen ice needs to be around a minimum of half a metre thick, both to create large enough blocks for harvesting and to support the weight of workers and horses involved in the process. The ice cutting was typically carried out at night when the ice was thicker.

The optimum harvest time in Norway was between December and February when the ice was sufficiently thick to be cut. Mild winters could result in ice famines, with one such event occurring in Norway in 1898 seriously affecting the UK ice market.

The quality of the ice varied with the hardest and clearest being reserved for table use and the rest for the commercial world. This seasonal work provided useful employment at a quiet time of the year.

Ice harvesting required a range of specialist tools, including chisels, ice saws and grapples, and protective equipment, such as special shoes for both the workers and horses. At the beginning of the ice harvest, the surface of the area on a lake selected for harvesting was cleaned of snow, and the ice thickness

was tested. This cleaned area was marked out by a worker and a horse pulling a cutter, much like a slim plough, with parallel blades that created long grooves in the lake surface. The ice was then cut along these grooves using metal handsaws. The blocks needed to be manageable for workers lifting and dragging them using the grapples.

The size of individual blocks varied according to their final destination with the smallest being about half a metre square. As about a quarter of the ice could be lost from melting during transport and storage, the further away the destination, the larger the individual blocks needed to be.

In Norway, the artificial lakes for ice harvesting were close to the sea for ease of export. Once the ice blocks were floated to the lake shore, they were lifted out of the water using the grapples and slid along the ice to special slides, which formed a wooden railway carrying the ice down to the docks, where they were loaded onto ships bound for London. Once they reached the London docks, the blocks of ice were unloaded onto horse-drawn barges, and taken along the canal to the underground ice wells in Wharf Road at King's Cross. There they could be kept for months until they were needed.

As the demand for ice grew, a host of related industries grew up around the ice trade. Apart from the production of the specialist tools and clothing, manuals were printed on how to create artificial lakes for ice harvesting; and special ships and train wagons for delivery of the ice were built among other new developments. The growth of the ice trade also affected the timber industry, as otherwise useless sawdust became a valuable commodity for packing and storing ice during transport.

The ice itself was much sought after by meat and fish sellers, and by pharmacists for various other purposes, including medicine to alleviate sprains and inflammation. But one particular consequence of the shipping of cheaper ice from Norway to London, for which Carlo Gatti is credited, is the introduction and growth of large-scale ice cream production, which prior to this had been the preserve of a few.

In the end, mechanical refrigeration removed the need to transport ice, but this new process led to the relative ease of the production, storage and distribution of ice cream.

## Questions 14–18

Do the following statements agree with the information given in Reading Passage 2?

Write:

**TRUE** if the statement agrees with the information.

**FALSE** if the statement contradicts the information.

**NOT GIVEN** if there is no information on this.

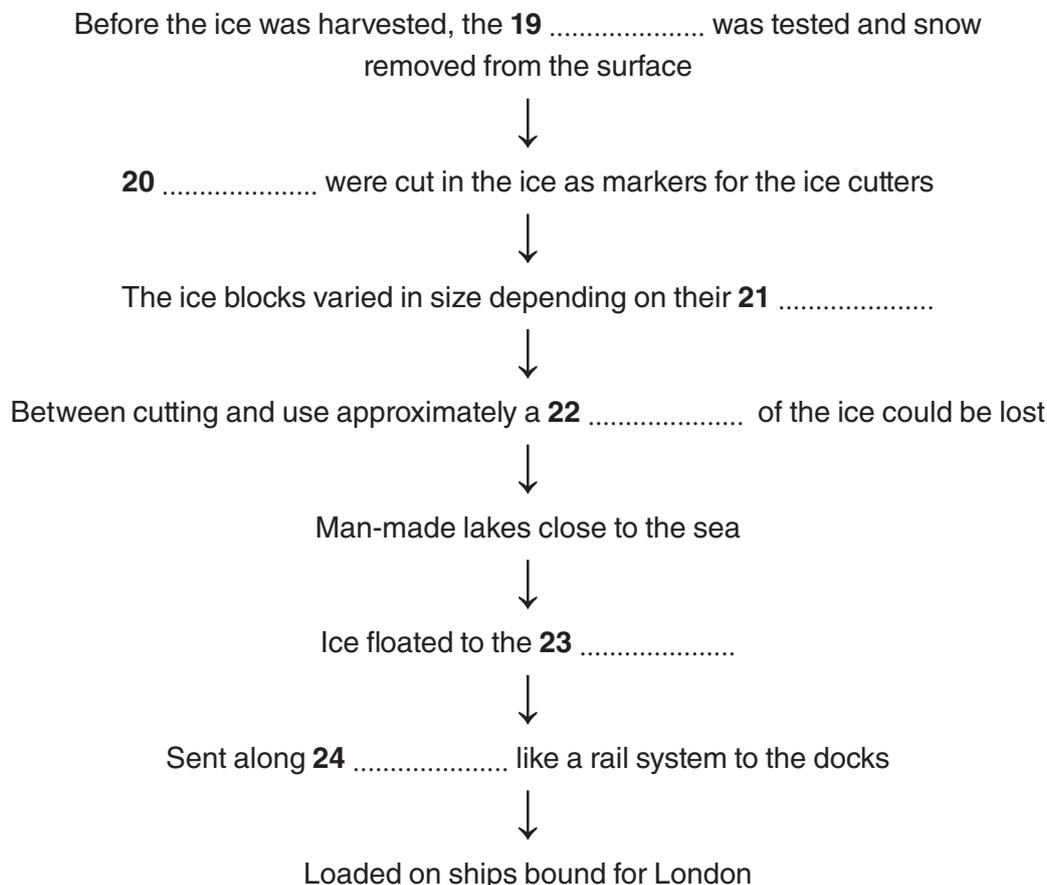
- 14 The standard of the ice produced in London in the early days was not very good.
- 15 Norway emerged as one of the suppliers of ice to London in the latter half of the 19th century.
- 16 Ice to be harvested had to be more than a metre thick.
- 17 The number of workers employed in the Norwegian ice trade rose dramatically when trade with London began.
- 18 The occurrence of ice famines was relatively rare.

## Questions 19–24

Complete the flow-chart below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer

### Harvesting the ice



**Questions 25–27**

*Answer the questions below.*

*Choose **NO MORE THAN TWO WORDS** from the passage for each answer.*

**25** What were published to give advice on creating man-made lakes?

**26** What item was turned from a product of no value to one of some monetary worth?

**27** By what means was ice cream brought to a wider public?