

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Tunnelling under the Thames

The first tunnel ever to be built under a major river was the tunnel under London's River Thames

At the beginning of the 19th century, the port of London was the busiest in the world. Cargoes that had travelled thousands of miles and survived all the hazards of the sea were unloaded on the banks of the Thames, only for their owners to discover that the most frustrating portion of their journey lay ahead. Consignments intended for the southern parts of Britain had to be lifted onto horse carts, pulled through the docks and across London Bridge, built in the 12th century and as impractical as its early date implies. By 1820, London Bridge had become the centre of the world's largest traffic jam.

It was an intolerable situation, and it was clear that if private enterprise could build another crossing closer to the docks, there would be good money to be made in tolls paid by users. Another bridge was out of the question, as this would deny sailing ships access to the city centre, and ambitious men turned their thoughts to tunnelling beneath the Thames instead. This was not such an obvious idea as it might appear. Although increasing demand for coal had meant a great many tunnels had been dug in mines in Britain, working methods remained primitive. Tunnels were dug by men with simple tools, by candlelight. However, in 1807, a group of businessmen got themselves up as the Thames Archway Company. Their ambition was to tunnel below the Thames, but there was little to guide them as there had been no previous attempt to do this. Their chief engineer was Richard Trevithick, designer of the world's first high-pressure steam engine. His men made progress at the beginning, but then things began to go disastrously wrong, with muddy soil pouring into the tunnel. Eventually the Thames Archway Company had had enough. Its funds were exhausted, Trevithick was sick from exposure to the river water, and its efforts had proved only that a passage under the river exceeded the limits of contemporary mining technology.

At that time, the only machines used in mines were pumps. It took a man of genius to recognise that a different sort of machine was needed, a machine that could prevent the roof and walls of a tunnel from collapsing. This man was Marc Brunel, a Frenchman who had become one of the most prominent engineers in Britain. Not long after the failure of the Thames Archway Company, Brunel saw a rotten piece of wood lying on the river bank. Examining the wood through a magnifying glass, he observed it was infested with something that looked like a worm. Brunel realised that as it tunnelled through the wood, it would push chewed wood into its mouth and digest it, then excrete a hard substance that lined the new tunnel. Brunel realised that the worm's digging technique could be adapted to produce a new way of tunnelling. His realisation led him to invent a device that has been used in one form or another in most major tunnels built since: the tunnelling shield. It

consisted of a series of iron frames that could be pressed against the tunnel face and supported on a set of horizontal wooden planks that would prevent the face from collapsing. It was a complex machine and not easy to use, but it seemed that it would protect the miners. Brunel's team examined earth samples taken from beneath the riverbed, and subsequently decided to dig the tunnel close to the muddy river bottom, where he could expect to find clay. This would be a more solid and safe substance to dig through than the sand that was found deeper down.

Brunel began work on his tunnel in 1825, but the problems of such an operation soon became apparent. Although the shield itself worked well, water began to drip into the tunnel. This was more of an annoyance than a danger while the pump was working, but this machine proved unreliable and sometimes failed altogether, meaning that floods began to occur with increasing regularity. The miners often had to run for their lives. Even when Brunel's men were able to work, they complained of frequent headaches, because the air underground was dirty and contaminated due to the lack of an adequate ventilation system. There were other problems too. Illuminating the tunnels was a constant challenge. Lamps gave off only a weak glow, and there were a number of accidents because the miners could not see what they were doing. Lastly, a number of Brunel's miners walked off the job because they could not tolerate the excessive temperatures that developed in the cramped conditions underground.

Despite all the setbacks, the tunnel finally emerged on the opposite river bank on August 12, 1841. Brunel's triumph, however, was only partial. The small payment of a penny per person made by the thousands of visitors hardly paid the interest on the government loan he had required to complete the project. As a result, there was never enough funding to make it accessible to horse-drawn vehicles, as intended. Instead, the passageways were filled with souvenir-sellers by day and the homeless at night, before it was finally closed.

It was only when the underground railway came to London in the 1860s that the Thames Tunnel achieved a measure of real usefulness. It was bought in 1869 by the East London Railway, who found it to be in such excellent condition that it was immediately pressed into service as a route for passenger trains heading east. The tunnel became, and remains, part of the London Underground network.

Questions 1–7

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–7 on your answer sheet, write

TRUE	<i>if the statement agrees with the information</i>
FALSE	<i>if the statement contradicts the information</i>
NOT GIVEN	<i>if there is no information on this</i>

- 1 In the early 19th century, the port of London was considered a safer destination than other ports.
- 2 London Bridge provided quick access for cargo being sent to southern Britain.
- 3 It was generally believed that a new river crossing would be profitable.
- 4 Building a second bridge crossing was initially considered to be the best solution.
- 5 It was believed that coal could be found under the River Thames.
- 6 The Thames Archway Company were the first group to try tunnelling below the Thames.
- 7 Some of Trevithick's men were injured during a mudslide at his tunnel.
- 8 The Thames Archway Company ran out of money to finance the tunnel project.

Questions 9–13

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 9–13 on your answer sheet.

Marc Brunel's tunnel

Preparing to build the tunnel

Brunel noticed how a kind of **9** made its tunnels in wood.

Brunel created a device called a 'tunnelling shield' to protect people working under the river.

Brunel planned to build a shallow tunnel so the earth would have a higher content of **10**

Problems faced by miners

There were frequent floods caused by mechanical breakdowns.

The miners suffered from **11** because of pollution in the tunnels.

Lighting problems led to several **12**

Some workers quit because of the high temperatures in the tunnel.

After the tunnel was finished

The tunnel was finally completed in 1841.

Brunel did not have enough money to repay his debt to the **13**

The tunnel was abandoned until the 1860s.

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Questions 1–8 判断题 (TRUE / FALSE / NOT GIVEN)

题号	答案	题干翻译	精确定位句 (原文)	定位句翻译	详细解释
1	NOT GIVEN	19世纪早期, 伦敦港被认为比其他港口更安全。	“Cargoes that had travelled thousands of miles and survived all the hazards of the sea ...”	这些货物航行了数千英里, 并且挺过了海上的各种风险.....	文章只提到“海上有风险 (hazards of the sea)”, 没有把“伦敦港”与“其他港口”做安全性对比, 也没有说“伦敦港更安全”。所以 NG 。
2	FALSE	伦敦桥为运往英国南部的货物提供了快捷通道。	“...the most frustrating portion of their journey lay ahead.” + “...London Bridge... as impractical as its early date implies.” + “By 1820... the centre of the world’s largest traffic jam.”	.....他们旅程中最令人沮丧的一段还在后面。/ 伦敦桥.....非常不实用。/ 到1820年, 伦敦桥成了世界最大交通堵塞的中心。	题干说“quick access (快捷)”, 但原文强调“frustrating / impractical / traffic jam (堵到爆)”, 明显相反, 所以 FALSE 。
3	TRUE	人们普遍认为修建一条新的过河通道会有利可图。	“...If private enterprise could build another crossing... there would be good money to be made in tolls...”	.....如果私人企业能修建另一条过河通道, 收取通行费就能赚到不少钱.....	“good money to be made” 直接对应 “profitable”。所以 TRUE 。
4	FALSE	起初人们认为修建第二座桥是最佳解决方案。	“Another bridge was out of the question, as this would deny sailing ships access...”	再建一座桥不在考虑范围内, 因为那会阻碍帆船进入市中心.....	原文明确说“桥不可能/不考虑 (out of the question)”, 题干说“最佳方案”, 与原文冲突, 所以 FALSE 。
5	NOT GIVEN	人们认为泰晤士河下能找到煤。	“Although increasing demand for coal had meant a great many tunnels had been dug in mines in Britain...”	虽然对煤的需求增长导致英国矿井里挖了很多隧道.....	这里说的是“英国矿井里挖隧道与煤需求有关”, 不是“泰晤士河下有煤”。原文没有“河下有煤”的信息, 所以 NG 。
6	TRUE	泰晤士拱道公司是第一个尝试在泰晤士河下打隧道的团队。	“...in 1807... the Thames Archway Company... Their ambition was to tunnel below the Thames... there had been no previous attempt to do this.”	.....他们想在泰晤士河下打隧道.....因为此前从未有人尝试过。	“no previous attempt” = 他们就是第一批尝试者。 TRUE 。
7	NOT GIVEN	特雷维西克的工人在隧道泥石滑落事故中有人受伤。	“...things began to go disastrously wrong, with muddy soil pouring into the tunnel.”	.....情况开始灾难性地变糟, 泥浆涌入隧道。	只说“泥浆涌入”, 没说“有人受伤”。受伤信息缺失 ⇒ NG 。
8	TRUE	泰晤士拱道公司耗尽资金, 无法继续为隧道工程提供资金。	“Its funds were exhausted ...”	他们的资金耗尽.....	资金耗尽 = ran out of money, 完全一致 ⇒ TRUE 。

Questions 9–13 笔记填空 (ONE WORD ONLY)

题号	答案	题干翻译	精确定位句 (原文)	定位句翻译	详细解释
9	worm	布鲁内尔注意到一种 9_____ 是如何在木头里打洞的。	“...he observed it was infested with something that looked like a worm.”	.....他发现木头里有一种东西, 看起来像一条虫 (worm)。	题目问“a kind of _____”, 原文明确“looked like a worm”, 且要求一词, 所以填 worm 。
10	clay	布鲁内尔计划把隧道挖浅一些, 这样土层里 10_____ 的含量更高。	“...dig the tunnel close to the muddy river bottom, where he could expect to find clay.”	.....靠近泥泞的河底挖, 他预计那里会有黏土 (clay)。	题干“higher content of _____”对应“find clay / more solid and safe substance”, 所以填 clay 。
11	headaches	由于隧道污染, 矿工遭受 11_____。	“...they complained of frequent headaches, because the air underground was dirty and contaminated...”	.....他们抱怨经常头痛, 因为地下空气肮脏且被污染.....	“suffered from” 对应“complained of frequent headaches”, 所以填 headaches 。
12	accidents	照明问题导致多起 12_____。	“...there were a number of accidents because the miners could not see what they were doing.”	.....发生了许多事故, 因为矿工看不清自己在做什么。	“several” / “a number of” 都指“accidents”, 一词答案 ⇒ accidents 。
13	government	布鲁内尔没钱偿还欠 13_____ 的债。	“...hardly paid the interest on the government loan...”	.....这些收入几乎连他所需的政府贷款利息都付不起.....	债务来源是“government loan”, 题干“repay his debt to the _____”对应债主“government”。一词答案 ⇒ government 。