READING PASSAGE 1

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

A Brief History of Humans and Food

During the journey from our hunter-gatherer ancestors to the present day, there have been three seismic changes that have impacted the food we eat: the discovery of cooking, the emergence of agriculture, and the invention of methods of preserving food.

The 19th-century scientist Charles Darwin thought that cooking, after language, was the greatest discovery made by man. All of us eat some raw food, such as fruit and vegetables, but the great majority of food we consume is cooked. Cooking can turn plants that are inedible into edible food by destroying toxic chemicals that plants often manufacture to protect themselves against attack by insects or other herbivorous animals. These toxic chemicals are referred to as “plant secondary compounds” because they are not directly involved in the plant’s normal growth, development, and reproduction, and are produced purely as chemical defenses. They give many of the plants we consume, such as coffee or Brussels sprouts, their bitter taste.

Cooked food is often more digestible because heat breaks down tough cellulose cell walls in plants or tough connective tissue in animals. Chewing raw turnip, a plate of uncooked rice, or a raw leg of lamb is much harder work than eating the cooked equivalent. The energy expended in chewing to break down the tough material is replaced by energy from the fuel used in cooking the food, so the ratio of energy gained to energy expended by the body is greater when food is cooked.

Until the development of agriculture, hunter-gatherers spent up to seven hours a day gathering food. This all began to change around 10,500 years ago with the advent of farming, which led to dramatic changes in human societies. People began to create a variety of new tools to aid survival, and in turn, populations increased in size. These changes led to the possibility of specialization of different tasks within society. Around this time, writing became more sophisticated and allowed people to maintain records of the harvest and taxes. Eventually, formalized structures of government were established as people settled in one area.

The arrival of agriculture meant that, for the first time, our ancestors had more food than they could eat immediately. This, combined with the seasonality of production, led them to discover methods of preserving food: smoking, drying, adding acid by fermentation, or adding salt. These four methods all share one feature in common—they make the food a more hostile environment for bacteria that can cause it to spoil. They also tend to slow down natural chemical reactions in the food that would cause decay.

Although foods today are still preserved in these ancient ways, two more recent methods of preserving food have become more common: canning and freezing. Canning was invented by a Frenchman, Nicolas Appert, in the early 19th century. He sealed food in bottles fabricated from glass and then heated them in boiling water to cook the contents. Appert's method had great advantages over older methods of food preservation: it could be applied to a wide range of foods, and the flavor and texture were similar to freshly cooked products. His idea was soon copied by an Englishman, Peter Durand. Until this point, containers had been too heavy to be widely used, but Durand produced the first ones which were lightweight and resistant to damage. Two years later, in 1812, two Englishmen, Bryan Donkin and John Hall, started the commercial canning of food, although the real rise in popularity of canning had to wait until the invention of the can opener in 1855. Until then, cans were opened with a chisel and hammer. Canning is an extremely effective way of preserving food: one can containing meat, dating back to 1824, was opened in 1939, and the contents were still in good condition.

In the 21st century, the dominance of canning as a method of food preservation has been overtaken by freezing. Chilling food to keep it fresh is an old idea. The earliest mentions of icehouses, thick-walled buildings, half underground, date back to 1700 BC in northwest Iran. In early 16th-century Italy, water was mixed with chemicals to lower its freezing point to -18 degrees Celsius. Several centuries later, frozen fish and other goods were transported by ship from Australia to England. However, the modern frozen food industry was started in the 1920s by an American, Clarence Birdseye. While on a fishing trip with the Inuit in the Canadian Arctic, Birdseye observed that rapid freezing creates smaller ice crystals and therefore causes less damage to food—a discovery he had not expected. Nevertheless, the major growth in demand for frozen food came with the arrival of freezers in ordinary people's homes. The advantages of frozen over canned food include the fact that the flavor and consistency are often identical to the fresh product, and freezing can be used to preserve a wide variety of foods.

Questions 1–5

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

In boxes 1–5 on your answer sheet, 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*

1 According to Darwin, cooking was the most significant development in human history.

2 The process of cooking gets rid of some plant poisons.

3 Eating cooked food is more energy efficient than eating raw food.

4 Clarence Birdseye had previously worked in the Australian food industry.

5 Birdseye's trip with the Inuit confirmed what he already believed about rapid freezing.

Questions 6–13

Complete the notes below.

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

Write your answers in boxes 6–13 on your answer sheet.

The Development of Agriculture and Food Preservation

The changes agriculture brought about were:

- the development of equipment and larger **6** _____
- the ability to keep **7** _____ as writing developed
- the setting up of organised government

Food preservation

- early methods of food preservation included: smoking, drying and combining food with acid or **8** _____
- canning
  - Nicolas Appert put food into containers made of **9** _____
  - Appert's method resulted in preserved food that had the same taste and **10** _____ as fresh food
  - Peter Durand introduced cans which had the advantage of being **11** _____ and hard to break
  - In 1855, the metal can opener replaced the **12** _____ which had been used with a hammer to open cans
  - some food was still found to be edible after more than a hundred years, e.g. an old can of **13** _____
- freezing

判断题（Questions 1–5）

题号	答案	题干翻译	定位句（英文）	定位句翻译	详细解释
1	**FALSE**	根据达尔文的观点，烹饪是人类历史上最重要的发展。	“Charles Darwin thought that cooking, **after language**, was **the greatest discovery** made by man.”（第 2 段）	“达尔文认为，**仅次于语言**，烹饪是人类所做出的**最伟大发现**。”	题干说“最重要/最显著（the most significant）”，而原文限定“**after language**”，即第二重要，故 **FALSE**。
2	**TRUE**	烹饪过程会去除一些植物毒素。	“Cooking can turn plants that are inedible into edible food by **destroying toxic chemicals** …”（第 2 段）	“烹饪能够通过**破坏有毒化学物质**，把不可食用的植物变成可食用的食物。”	“destroying toxic chemicals（破坏毒素）”= 去除部分植物毒素，与题干一致，判 **TRUE**。
3	**TRUE**	吃熟食比吃生食更“能量高效”。	“… so the **ratio of energy gained to energy expended** by the body is **greater when food is cooked**.”（第 3 段）	“因此，当食物被烹饪后，人体**获得能量与消耗能量的比值**更高。”	“比值更高”就是**更高效**（同等进食下净收益更大），与题干一致，判 **TRUE**。
4	**NOT GIVEN**	克拉伦斯 · 伯德赛此前在澳大利亚食品业工作。	a) “Several centuries later, frozen fish … were transported **from Australia to England**.” b) “However, the modern frozen food industry was started … by **an American, Clarence Birdseye**. **While on a fishing trip with the Inuit in the Canadian Arctic**, Birdseye observed …”（第 7 段）	a) “若干世纪后，冷冻鱼等被**从澳大利亚运往英国**。” b) “然而，现代冷冻食品业由**美国人伯德赛**开创。**他在加拿大北极与因纽特人**钓鱼旅行时做出了观察……”	文中只把**澳大利亚**当作早期**货源/运输地**的例子；关于伯德赛的经历只写到**美国人身份**与**加拿大北极之行**，并未说明他是否在澳大利亚食品业工作，信息既不支持也不否定 ⇒ **NOT GIVEN**。
5	**FALSE**	伯德赛与因纽特人的旅行证实了他早已相信的关于速冻的看法。	“While on a fishing trip with the Inuit … Birdseye observed that rapid freezing creates smaller ice crystals … — **a discovery he had not expected**.”（第 7 段）	“在与因纽特人的钓鱼旅行中，伯德赛观察到快速冷冻会形成更小的冰晶、从而对食物损伤更小——这是**他未曾预料的**发现。”	题干说“**证实了他已相信的看法**”，而原文强调这是**意料之外的**新发现（had not expected），并非去验证既有信念，故与题干相矛盾 ⇒ **FALSE**。

笔记填空（ONE WORD ONLY，Questions 6–13）

题号	答案	题干提示与翻译	定位句（英文）	定位句翻译	解释
6	**populations**	“设备的发展和更大的 _____”	“… people began to create … tools … and, in turn, **populations increased in size**.”（第 4 段）	“……人们开始创造新工具……**人口规模扩大**。”	“更大的”对应“populations increased in size”，名词作填空：**populations**。
7	**records**	“随着文字发展，能够保存 _____”	“… writing … allowed people to **maintain records** of the harvest and taxes.”（第 4 段）	“……文字变得更复杂，使人们能够**保存（维持）记录**（如收成与赋税）。”	与题干保持名词一致：**records**。
8	**salt**	“将食物与酸或 _____ 结合”	“… methods …: smoking, drying, **adding acid by fermentation, or adding salt**.”（第 5 段）	“……方法包括：熏、晒、**发酵加酸**，或**加盐**。”	与“acid or ___”并列的唯一名词：**salt**。
9	**glass**	“阿佩尔把食物放进由 _____ 制成的容器”	“He sealed food in bottles **fabricated from glass** …”（第 6 段）	“他把食物密封在**玻璃**制成的瓶中……”	容器材质：**glass**。
10	**texture**	“与新鲜食物相同的味道和 _____”	“… the **flavor and texture** were similar to freshly cooked products.”（第 6 段）	“其**风味与口感（质地）**与新鲜烹调的产品相近。”	与“taste/ flavor”并列的名词：**texture**。
11	**lightweight**	“德兰的罐头有个优点：它们 _____ 且不易破”	“… Durand produced the first ones which were **lightweight** and **resistant to damage**.”（第 6 段）	“德兰生产的容器**轻便**且**耐损**。”	与题干“hard to break”=“resistant to damage”对应；首个空应填“**lightweight**”。
12	**chisel**	“1855 年金属开罐器替代了与锤子一起用来开罐的 _____”	“Until then, cans were opened with a **chisel** and hammer.”（第 6 段）	“在此之前，人们用凿子和锤子开罐。”	被替代的工具：**chisel**。
13	**meat**	“一个多世纪后仍可食用的旧罐头，例如一罐 _____”	“one can **containing meat**, dating back to 1824, was opened in 1939 …”（第 6 段）	“一罐**装有肉的**罐头（1824 年），在 1939 年开启时仍状况良好。”	具体例子：**meat**。