
C12T8P1 测试练习

The History of Glass

From our earliest origins _____, man has been making use of glass. Historians _____ have discovered that a type of natural glass -obsidian - formed _____ in places such as the mouth of a volcano _____ as a result of the intense heat of an eruption _____ melting sand - was first used as tips for spears _____. Archaeologists _____ have found evidence of man-made glass which dates back _____ to 4000BC; this took the form of glazes used for coating stone beads _____. It was not until 1500 BC that the first hollow _____ glass container _____ was made by covering a sand core with a layer of molten _____ glass.

Glass blowing became the most common way to make glass containers from the First century BC. The glass made during this time was highly coloured due to the impurities _____ of the raw material _____. In the First century AD, methods of creating colourless glass were developed, which was then tinted _____ by the addition of colouring materials. The secret of glass making was taken across Europe by the Romans during this century. However, they guarded _____ the skills and technology required to make glass very closely, and it was not until their empire _____ collapsed _____ in 476 AD that glass -making

knowledge became widespread throughout Europe and the Middle East. From the 10th century onwards, the Venetians gained a reputation _____ for technical skill and artistic ability in the making of glass bottles, and many of the city's craftsmen _____ left Italy to set up glassworks throughout Europe.

A major milestone _____ in the history of glass occurred _____ with the invention of lead crystal _____ glass by English glass manufacturer George Ravenscroft (1632-1683). He attempted to counter the effect of clouding that sometimes occurred in blown glass by introducing lead to the raw materials used in the process. The new glass he created was softer and easier to decorate, and had a higher refractive index, adding to its brilliance and beauty, and it proved invaluable _____ to the optical _____ industry. It's thanks to Ravenscroft's invention that optical lenses _____ , astronomical _____ telescopes _____ , microscopes _____ and the like became possible.

In Britain, the modern glass industry only really started to develop after the repeal of the Excise Act in 1845. Before that time, heavy taxes had been placed on the amount of glass melted in a glasshouse, and were levied _____ continuously from 1745 to 1845. Joseph Paxton's Crystal

Palace at the Great Exhibition _____ of 1851 marked the beginning of glass as a material used in the building industry. This revolutionary _____ new building encouraged the use of glass in public, domestic _____ and horticultural _____ architecture. _____ Glass manufacturing techniques _____ also improved with the advancement of science and the development of better technology.

From 1887 onwards, glass making developed from traditional mouth-blowing to a semi-automatic _____ process, after factory-owner HM Ashley introduced a machine capable of producing 200 bottles per hour in Castleford, Yorkshire, England- more than three times quicker than the previous _____ production methods. Then in 1907, the first fully automated machine was developed in USA by Michael Owens -founder of the Owens Bottle Machine Company (later the major glass manufacturers Owens - Illinois)-and installed _____ in its factory. Owens' invention could produce an impressive 2500 bottles per hour. Other developments followed rapidly, but it was not until the First World War, when Britain became cut off from essential glass suppliers, that glass became part of the scientific sector. Previous to this, glass had been seen as a craft rather than a precise science.

Today, glass making is a big business. It has become a modern, hi-tech industry operating in a fiercely _____ competitive _____ global market where quality, design and service levels are critical to maintaining _____ market share. Modern glass plants are capable of making millions of glass containers a day in many different colours, with green, brown and clear remaining the most popular. Few of us can imagine modern life without glass. It features in almost every aspect of our lives - in our homes, our cars and whenever we sit down to eat or drink. Glass packaging _____ is used for many products, many beverages are sold in glass, as are numerous foodstuffs _____ , as well as medicines and cosmetics _____ .

Glass is an ideal _____ material for recycling _____ , and with growing consumer concern for green issues, glass bottles and jars are becoming ever more popular. Glass recycling is good news for the environment. It saves used glass containers being sent to landfill _____ . As less energy is needed to melt recycled glass than to melt down raw materials, this also saving fuel and production costs. Recycling also reduces the need for raw materials to be quarried _____ , thus saving precious resources.