

## Reading Passage 1

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

### Bricks - The Versatile Building Material

Bricks are one of the oldest known building materials dating back to 7000 BCE. The oldest found were sun-dried mud bricks in southern Turkey and these would have been standard in those days. Although sun-dried mud bricks worked reasonably well, especially in moderate climates, fired bricks were found to be more resistant to harsher weather conditions and so fired bricks are much more reliable for use in permanent buildings. Fired brick are also useful in hotter climates, as they can absorb any heat generated throughout the day and then release it at night.

The Romans also distinguished between the bricks they used that were dried by the sun and air and the bricks that were fired in a kiln. The Romans were real brick connoisseurs. They preferred to make their bricks in the spring and hold on to their bricks for two years, before they were used or sold. They only used clay that was whitish or red for their bricks. The Romans passed on their skills around their sphere of influence and were especially successful at using their mobile kilns to introduce kiln-fired bricks to the whole of the Roman Empire.

During the twelfth century, bricks were introduced to northern Germany from northern Italy. This created the 'brick Gothic period,' which was a reduced style of Gothic architecture previously very common in northern Europe. The buildings around this time were mainly built from fired red clay bricks. The brick Gothic period can be categorised by the lack of figural architectural sculptures that had previously been carved in stone, as the Gothic figures were impossible to create out of bulky bricks at that time.

Bricks suffered a setback during the Renaissance and Baroque periods, with exposed brick walls becoming unpopular and brickwork being generally covered by plaster. Only during the mid eighteenth century did visible brick walls again regain some popularity.

Bricks today are more commonly used in the construction of buildings than any other material, except wood. Brick architecture is dominant within its field and a great industry has developed and invested in the manufacture of many different types of bricks of all shapes and colours. With modern machinery, earth moving equipment, powerful electric motors and modern tunnel kilns, making bricks has become much more productive and efficient. Bricks can be made from a variety of materials, the most common being clay, but they can also be made of calcium silicate and concrete.

Good quality bricks have major advantages over stone as they are reliable, weather resistant and can tolerate acids, pollution and fire. They are also much cheaper than cut stonework. Bricks can be made to any specification in colour, size and shape, which makes them easier to build with than stone. On the other hand, there are some bricks that are more porous and therefore more susceptible to damage from dampness when exposed to water. For best results in any construction work, the correct brick must be chosen in accordance with the job specifications.

Today, bricks are mainly manufactured in factories, usually employing one of three principal methods - the soft mud process, the stiff mud process and the dry clay process. In the past, bricks were largely manufactured by hand, and there are still artisanal companies that specialise in this product. The process involves putting the clay, water and additives into a large pit, where it is all mixed together by a tempering wheel, often still moved by horse power. Once the mixture is of the correct consistency, the clay is removed and pressed into moulds by hand. To prevent the brick from sticking to the mould, the brick is coated in either sand or water, though coating a brick with sand gives an overall better finish to it. Once shaped, the bricks are laid outside to dry by air and sun for three to four days. If these bricks left outside for the drying process are exposed to a shower, the water can leave indentations on the brick, which, although not affecting the strength of the brick, is considered very undesirable. After drying, the bricks are then transferred to the kiln for firing and this creates the finished product. Bricks are now more generally made by manufacturing processes using machinery. This is a large-scale effort and produces bricks that have been fired in patent kilns.

Today's bricks are also specially designed to be efficient at insulation. If their composition is correct and their laying accurate, a good brick wall around a house can save the occupants a significant amount of money. This is primarily achieved today through cavity wall insulation. Insulating bricks are built in two separate leaves, as they are called in the trade. The gap between the inner and outer leaves of brickwork depends on the type of insulation used, but there should be enough space for a gap of twenty millimetres between the insulating material in the cavity and the two leaves on either side. The air in these gaps is an efficient insulator by itself. Cavity walls have also replaced solid walls, because they are more resistant to rain penetration. Because two leaves are necessary, a strong brick manufacturing industry is essential, so that enough good quality insulating bricks are plentifully available.

**Questions 1 - 5**

Do the following statements agree with the information given in the text?

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      Fired bricks are not efficient in countries with hot weather, as they absorb too much heat.
- 2      Roman brick production was determined by which season it was.
- 3      The bricks that led to the brick Gothic period in northern Germany were popular with house builders.
- 4      Buildings showing brickwork were generally not liked during the Renaissance.
- 5      Some types of bricks can soak up too much water due to their absorbent qualities.



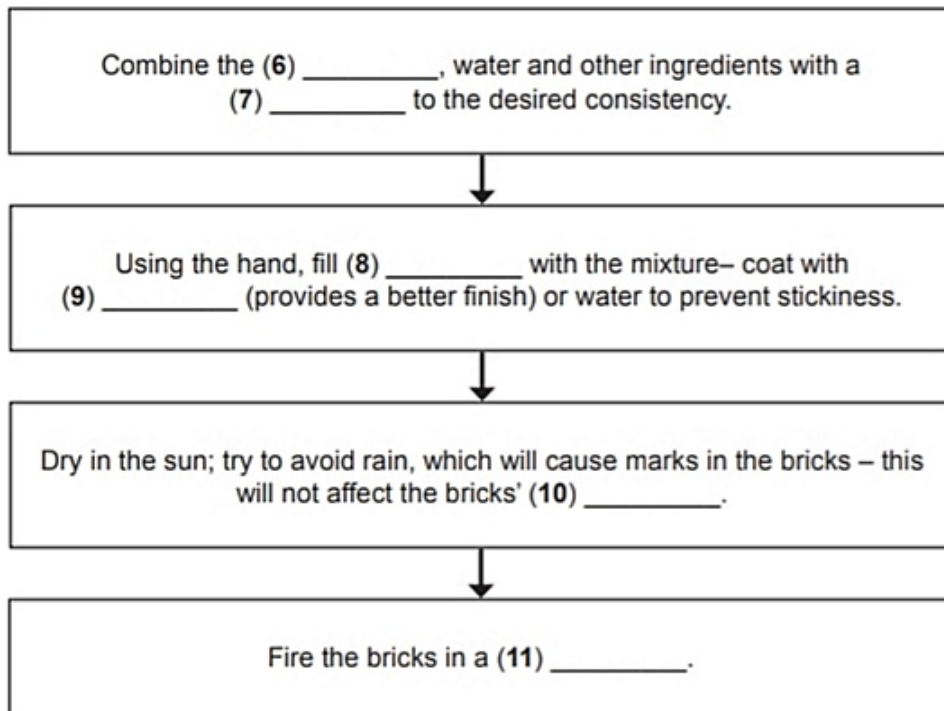
**Questions 6 – 11**

Complete the flow chart below.

Write **NO MORE THAN TWO WORDS** from the text for each answer.

Write your answers in boxes **6 – 11** on your answer sheet.

***Making Hand-made Bricks***



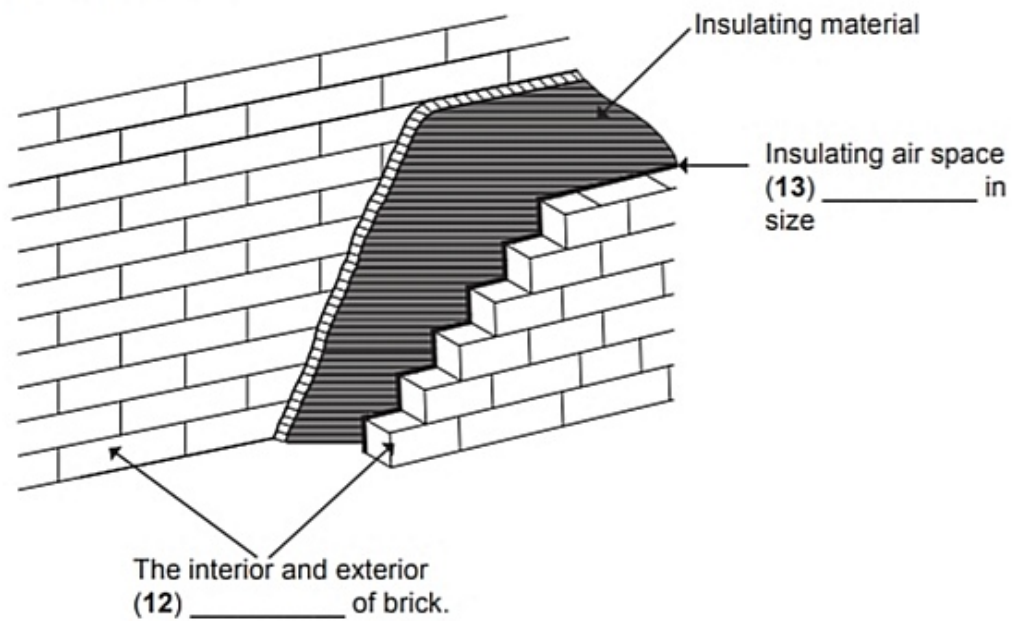
**Questions 12 and 13**

Label the diagram below.

Write **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the text for each answer.

Write your answers in boxes **12 and 13** on your answer sheet.

***Cavity Wall Insulation***



## Reading Passage 2

You should spend about 20 minutes on **Questions 14 - 26**, which are based on Reading Passage 2 below.

### The Rise of Agritourism

In advanced industrialised countries, small farmers have been challenged by changing economic and social conditions, such as increased global competition, falling commodity prices, and capital- and technology-intensive agricultural production. In addition, there has been added public pressure to make expensive changes in farming methods, due to public environmental concerns about industrialised agricultural production in combination with political pressures to reduce agricultural subsidies. These changing economic and social conditions have disproportionately impacted smaller farms in Europe and the US.

Agritourism is becoming an increasingly popular way for rural property owners to earn additional income from agricultural properties. In addition to more traditional farm tours and seasonal activities, such as hay rides, corn mazes and u-pick fruits, farm owners are devising new ways to bring people to their door by offering more entertainment-oriented activities. Some farmers are offering their barns as venues for weddings, parties, dances and other special events. Others are opening their homes to visitors for vacations, so guests can experience life on a working farm by helping out with routine farm chores, such as feeding or herding the livestock, milking the animals, making cheese, collecting eggs, picking vegetables and preparing farm fresh meals. Agritourism works in combination with a growing public desire to engage in rural experiences and outdoor recreational activities. By combining agriculture and tourism, agritourism offers these rural experiences to urban residents and economic diversification to farmers.

Part of the attraction of agritourism is the nostalgia it creates for a simpler time and its authenticity. Tourists are being sold, not only on beautiful sceneries and visual aesthetics, but also experiences that are meant to open up a new world for these customers who are tired of the hustle and bustle of city life. Authenticity has been an abiding theme in tourism studies and it may have a special meaning in this combination of agriculture and tourism. For one thing, the image of the family farm remains imbued with deep authenticity, the surviving representation of an old world ideal. To partake in agritourism is therefore likely to convey the sense of having a deeply authentic experience. Critics have claimed that this desire to reconnect with the life world of one's ancestors may conflict with the nature of modern agriculture and whether the tourist will want to face its true realities. It seems therefore that often the most distinctive innovative effort involves the reinvention of tradition and rural tourism products. Examples are the recreation of home-produced products long since replaced by manufactured commodities and the provision of hands-on-experiences in crafts often recreated for tourists. As a result, some critics argue that the tourists who are running to the countryside are over-crowding and ruining the pristine beauty that they so desperately want to experience.

Agritourism can benefit the life and economy of local communities, as well as the farms themselves. Agritourism firstly means that some farms can continue in business and employ workers. Employment underscores the genuine importance of agritourism farms to local economies, as rural communities are usually areas that both have high unemployment and few alternatives for the unemployed to find work. Secondly, a significant number of



agritourists come from areas reasonably local to the visited farms. This means that tourist spending on agritourism often stays in the region, helping to generate taxable revenues and more disposable incomes. The U.S. Department of Agriculture's agricultural census, taken every five years, found that last year approximately 23,000 farms took part in agritourism. These farms each earned \$24,300 from agritourism, compared to five years ago, when farms engaged in this brought in only \$7,200 per farm. The trend is clearly growing and the money generated will stimulate local economies. Thirdly, agritourism benefits the local community in terms of education. Many farms offer tours for elementary school-age children, who can learn where their food is coming from and how it is produced.

Farms choosing to develop agritourism have had reasonable government support. Over the last 20 years, European Union countries have spent 2 billion euros to subsidise agritourism development in rural farming areas that cannot compete in a global market with declining commodity prices. This, in turn, helps governments by keeping farmers on land, protecting picturesque rural landscapes that attract tourists, and supporting the production of regional agricultural products. As well as finance, local and national governments should create in the areas under their jurisdiction favourable environments for the development of agritourism, by changing regulatory and tax constraints, so that more farms are encouraged to enter the industry.

It is clear that there are strong economic and social benefits that agritourism can provide farmers, customers and the local areas where the farms are situated. Agritourism contributes to and enhances the quality of life in communities by expanding recreational opportunities, differentiating rural economies, and promoting the retention of agricultural lands. Working agricultural landscapes reflect the efforts of generations of farm families and often provide a defining sense of culture, heritage, and rural character. Agritourism provides educational opportunities for school children and adults to learn about this agrarian heritage, the production of food, and resource stewardship. Finally, many agritourism operations provide consumers with direct access to fresh farm goods. Agritourism is an industry with an enormous potential for growth. With it, farming could become more efficient and sustainable, rural areas could become more beautiful and farmers could become better off and more significant employers and contributors to economies.

### Questions 14 - 19

Choose the correct letter **A, B, C** or **D**.

Write the correct letter in boxes **14 - 19** on your answer sheet.

- 14 Farmers today face demands from the public about
- A reacting to global competition.
  - B improving workers' conditions.
  - C changing to more environmentally friendly production methods.
  - D making production cheaper.
- 15 Farmers today are experiencing pressure from governments, as the latter wishes to
- A reduce the amount of money they provide to help farmers.
  - B increase taxes to gain more public income.
  - C force farmers to employ more workers.
  - D reduce the amount of pesticides used in agricultural production.
- 16 Farmers can attract tourists by
- A undercutting the competition of traditional holidays on prices.
  - B being close to transport hubs.
  - C letting people get married on the farm.
  - D marketing on a door-by-door basis.
- 17 Farming authenticity partly depends on
- A the beauty of the farms' surroundings.
  - B the public's traditional perceptions of a small farm.
  - C how the farm workers dress and behave.
  - D the type of livestock the farms have.
- 18 Farms can create authenticity by
- A making tourist workers get up very early in the morning.
  - B having interactive displays of farm workings.
  - C not showing animals being killed.
  - D re-establishing old processes that are not usually used any more.
- 19 One criticism of agritourism is that
- A farm workers lose their jobs.
  - B tourists change how farms operate.
  - C the extra numbers of people in the countryside spoil its appeal.
  - D only the farmer receives the extra income.



**Questions 20 - 26**

Complete the notes below.

Write **NO MORE THAN THREE WORDS** for each answer.

Write your answers in boxes **20 - 26** on your answer sheet.

**The Benefits of Agritourism**

- \* Farms continue in business and are employers.
- \* Tourist (20) \_\_\_\_\_ remains in the area.
- \* It generates taxes and creates (21) \_\_\_\_\_.
- \* Local economies grow because of the extra money spent.
- \* Children can learn about farming.
- \* (22) \_\_\_\_\_ benefit by keeping farms in operation on the land.
- \* Rural (23) \_\_\_\_\_ are preserved.
- \* (24) \_\_\_\_\_ continue to be manufactured.
- \* Improved quality of life and more recreational possibilities in communities.
- \* Diversified (25) \_\_\_\_\_.
- \* Land remains in use by agriculture.
- \* Education for all.
- \* People can easily buy (26) \_\_\_\_\_.

### Reading Passage 3

You should spend about 20 minutes on **Questions 27 - 40**, which are based on Reading Passage 3 below.

#### The Fight Against Polio

##### Paragraph A

The poliovirus is one of the smallest and simplest viruses. It is usually spread by just dirty fingers and in most cases is confined to the gut. As the virus travels down the intestine, it induces the body to produce antibodies against it, which will protect the person against future attacks. In about one per cent of cases, the virus floods into the bloodstream and infects the nerve cells in the spinal cord that drive the muscles. This causes the characteristic paralysis, which can affect one or more limbs and/or the muscles of respiration, in which case artificial ventilation, for example with the iron lung, may be needed to keep the patient breathing and alive. The iron lung, which was officially known as a negative pressure ventilator, was invented hundreds of years ago, but was further developed in the 1930's to help with the world polio outbreaks. At one point, the need for iron lungs was so high that they were used with a patient within an hour of their manufacture.

##### Paragraph B

Polio originally caused sporadic clusters of paralysis, especially in children. For some reason, this pattern changed during the late nineteenth century into explosive epidemics, which swept through many countries each summer. The first major outbreak, on the East Coast of the USA in the summer of 1916, caused 25,000 cases of paralysis and 6,000 deaths. Draconian public health measures were powerless to prevent the spread of the disease, resulting in widespread panic across America. Each year, panic resurfaced as the polio season approached, with the wealthy leaving towns and cities in droves.

##### Paragraph C

This fear of polio was deliberately fuelled and exploited by the March of Dimes, an American fund-raising organisation set up by President Franklin D Roosevelt, himself a polio survivor. The March of Dimes raised vast sums, and funded both practical support for polio victims and their families, and the research programmes that ultimately resulted in effective polio vaccines.

##### Paragraph D

Polio can be prevented but not cured. Treatments proposed for patients with acute polio have included barbaric measures, such as branding the child's back with a red-hot poker and 'brain washout therapy'. Less dramatic were massive doses of vitamins C and chemically modified cobra venom. None of these had any impact on paralysis or survival, and some were positively dangerous. The iron lung could rescue patients from suffocation if their respiratory muscles were paralysed, but the iron lung itself carried considerable risks. Until chest infections could be properly treated, seventy per cent of patients put inside the iron lung died there.



#### **Paragraph E**

Two rival strategies were used to develop vaccines to protect against polio. Jonas Salk (1914–1998) favoured an 'inactivated polio vaccine' (IPV), in which wild polioviruses are 'killed' with formalin, so that they can no longer replicate and spread into the spinal cord. IPV is injected into a muscle and causes protective antibodies to appear in the bloodstream. The 'oral polio vaccine' (OPV) developed by Albert Sabin (1906–1993) relies on the fact that polioviruses forced to grow under unfavourable conditions in the laboratory will undergo mutation into forms that can no longer invade the spinal cord. The OPV virus is still 'alive' and able to replicate, but cannot enter the spinal cord and cause paralysis. OPV is taken by mouth and, like a wild poliovirus, induces immunity against itself in the gut wall as it travels through the intestine. It therefore provides a different type of immunity protection when compared with the Salk vaccine.

#### **Paragraph F**

Salk's IPV was the first polio vaccine to be tested on a large scale, in massive clinical trials in 1954 involving 1.8 million American children. Following the sensational declaration that his vaccine 'works and is safe', Salk became a national and international hero, and mass vaccination of children with his IPV began immediately. Vaccination continued despite a tragic outbreak of paralytic (and sometimes fatal) polio due to contamination of the Salk vaccine with wild poliovirus, which was the result of carelessness in the vaccine production plant. Numbers of paralytic cases and deaths from polio fell dramatically in the USA over the next few years, and Salk's vaccine was taken up across the world. Sabin's OPV, being cheaper, more effective and easier to give, later superseded the Salk vaccine. Given correctly, both vaccines protect against polio and are overwhelmingly safe. There is an exceedingly low risk (one in 500,000 vaccinations) of Sabin's OPV reverting to a paralysing variant, a drawback that Sabin always refused to acknowledge.

#### **Paragraph G**

Polio vaccine not only protects individuals, but, if given intensively and on a massive scale, can prevent the virus from spreading and so stamp it out. In 1988, various organisations set out to clear the planet of polio through a worldwide vaccination campaign. The hope was that polio would follow the example of smallpox, which was exterminated by intensive global vaccination during the late 1970's. Now, after 26 years, polio is tantalisingly close to being eradicated, with just 200 paralytic cases worldwide last year, as compared with over 300,000 in 1988. Tragically, though, endemic polio continues to cling on in three areas, Afghanistan, Pakistan and Northern Nigeria, largely because of anti-western ideology that is backed up by intimidation, death threats and the murder of many vaccinators and their supporters. Usually refugees, but also other travellers, have reintroduced polio to other countries, for example Syria, Lebanon and various African states, which had been previously cleared of polio. Unfortunately, it is now very unlikely that polio will be eradicated within the next two to three years and it seems that the final extermination of the virus will depend as much on diplomacy as on medicine and science.

#### Glossary

Draconian – severe or harsh.

In droves - in large numbers.

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**Questions 27 – 33**

The text above has 7 paragraphs **A - G**.

Which paragraph contains the following information?

Write your answers in boxes **27 – 33** on your answer sheet.

- 27 The OPV protects people in the same way as a wild virus works in the body.
- 28 Panic was intentionally created in order to raise money to fight polio.
- 29 The OPV was more successful than the IPV at preventing polio.
- 30 The US polio outbreaks caused some people to move away from high population areas in the summers.
- 31 Extremism is one barrier to the eradication of polio.
- 32 Iron lungs were in great demand because the numbers of people sick with polio.
- 33 One medicine used to treat polio was based on snake poison.

### Questions 34 – 37

Complete the summary below.

Write **NO MORE THAN ONE WORD** from the text for each answer.

Write your answers in boxes **34 - 37** on your answer sheet.

#### THE TWO POLIO VACCINES

Salk developed one of the two anti-polio vaccines by using (34) \_\_\_\_\_ to stop the ability of the polio virus to attack the spinal cord. The vaccine's presence after injection therefore causes the creation of antibodies. Sabin's other vaccine uses induced (35) \_\_\_\_\_ to stop the ability of the virus to attack the spinal cord. After administration, it too creates antibodies.

After large-scale (36) \_\_\_\_\_, the IPV was declared safe and was used for vaccination in the US. Salk was a hero, despite one outbreak of polio due to a contaminated vaccine. The cheaper OPV became more popular over time. Both vaccines are effective, though there is a possible and unlikely danger of an unsafe (37) \_\_\_\_\_ developing in the IPV.

### Questions 38 - 40

Answer the questions below.

Write **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the text for each answer. Write your answers in boxes **38 - 40** on your answer sheet.

- 38 What group is especially prone to the paralysis caused by polio?
- 39 What proportion of people did not survive treatment in the iron lung without effective chest treatment?
- 40 Who have been the most significant cause for the reintroduction of polio into countries where it was previous eradicated?