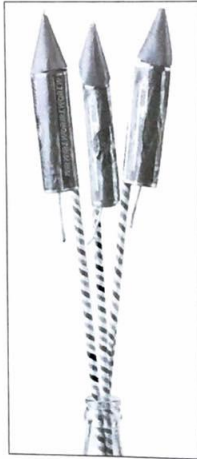


## D Reading

6 Read the following encyclopedia article.

### Passage B: Facts about fireworks

**F**ireworks are believed to have been invented more than 2000 years ago in China, where they were used in the form of firecrackers to accompany many festivities, in order to ward off evil and invoke prosperity. It is believed that the first firecrackers were actually accidental: chunks of bamboo thrown onto a fire. (Bamboo traps air inside the segments so that when heated, it expands and bursts through the sides, and this could have started the idea.) China is the largest manufacturer and exporter of fireworks in the world; 90% of all fireworks originate from there. They are still made by hand, and it is a hazardous job assembling the sections of the cardboard tubes.



and the phenomenal New Year display in Dubai in 2014 was masterminded by the Italian-American Phil Grucci.

Every year, people in China celebrate the invention of the firecracker on 18th April. Fireworks are also an integral part of the Chinese New Year celebrations. The big occasion for fireworks in the UK is Guy Fawkes Night (5th November) to celebrate the failure of the Gunpowder Plot to blow up parliament. France uses fireworks to celebrate Bastille Day, commemorating the storming of the prison during the French Revolution. Firework displays are also a major part of Independence Day celebrations in the United States.

In 1240, the Arabs acquired knowledge of gunpowder, and in the same century firecrackers arrived in Europe, with the crusaders or Marco Polo. The key ingredient in making fireworks is gunpowder, which consists of saltpetre (potassium nitrate), charcoal and sulphur. Early fireworks were enjoyed less for the show than for the sound; simple gunpowder explodes quickly with a terrific bang but with little colour. Over time, people discovered that using chemical compounds with greater amounts of oxygen made the explosives burn brighter and longer. At first fireworks were only orange and white. In the Middle Ages, new colours were achieved by adding different minerals. They had least success with blue. This became available with the discovery of copper compounds, but this is an unstable metal and so is less frequently used.

It wasn't until the 1800s that fireworks developed into what we know today. Italy was the first country in Europe to truly master and experiment with pyrotechnics, by loading firecrackers into cannons and shooting them into the air. Multi-hued displays were an innovation of the 1830s, when metals that burn at high temperatures and create colours, sparks and noises were added to gunpowder. The Italians are still at the forefront of pyrotechnic development,

The world record for the largest firework display before January 2014 in Dubai consisted of 77 282 fireworks set off in Kuwait in November 2011 as part of the country's 50th anniversary celebrations. The largest firework rocket – 13 kilograms – was produced and launched in Portugal in 2010. The biggest annual firework display event in Europe is the International Festival concert held in Edinburgh, Scotland, in which no fewer than a million fireworks are set off in less than an hour. A string of firecrackers lasting 22 hours marked the New Year's Day celebrations in Hong Kong in 1996. The world's largest single firework was seen at a festival in Japan in 1988; the burst was over a kilometre across and the shell weighed over half a tonne. A rocket can reach speeds of 240 kilometres per hour, and the shell can reach as high as 200 metres. People will always see the explosion of a firework before hearing it. This is because although they both travel in waves, light travels at 1080 million kilometres per hour whereas sound travels only at 1225 kilometres per hour.

In public shows today, specialists use computers to control the electronic ignition of fireworks, as well as to synchronise the aerial bursts with music. Firework displays are becoming ever more spectacular and are an established way of celebrating any global, national or local event or anniversary.

## E Language and style

- 7 a Underline the **passive verb** forms in Passage B e.g. *are believed*.  
b Explain why passive rather than active verb forms are used in certain types of text.

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- 8 Look at the five underlined words in Passage B and consider how they are used. Fill the blanks in the paragraph below with one of these words. (You may want to use some words more than once, and some not at all.)

**few      fewer      fewest      a few      little      less      least      a little**

There are \_\_\_\_\_ signs of fireworks losing popularity as a form of entertainment. Gradually, private firework shows are becoming \_\_\_\_\_ common and are being replaced by public events. This means that the injuries caused by fireworks are \_\_\_\_\_, but they are still a cause of damage to property, unintended fires, maiming of children and traumatising of animals. \_\_\_\_\_ people argue that fireworks are destructive in many senses, and that the expense and waste of natural resources cannot be justified in return for \_\_\_\_\_ moments of pleasure, but there is \_\_\_\_\_ public debate on the subject, and unlikely to be, given that they have been around for so long.

- 9 Use *given that* (used in the last sentence of the paragraph above) correctly in a sentence of your own.

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## F Comprehension and summary

- 10 a In which century did fireworks become known in Europe?

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- b Express in your own words what happened to fireworks in the 1830s.

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- c Which country held the world record for a coordinated firework display before New Year's Eve 2014?

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