

Read **Text A**, and then answer **Questions 1(a)–(e)** on the question paper.

Text A: The problem with plastics

This article warns of the dangers of plastics.

Plastics are wonder materials: adaptable and durable. We produce and use more plastics than we do almost any other man-made materials, apart from steel, cement and brick. Scientists calculate the total plastic ever made as 8.3 billion tonnes – as heavy as one billion elephants – an astonishing mass of material.

Mass-manufacturing of plastics began in the 1950s. Plastics are now all around us, in everything from food wrapping to aeroplane parts and flame retardants. It is precisely plastics' amazing qualities that present a growing problem.

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'We're rapidly heading towards "Planet Plastic". If we don't want to live in that kind of world we have to rethink how we use materials, particularly plastic,' explains environmental scientist, Dr Ros Gaia. 'None of the commonly used plastics are biodegradable. You can permanently dispose of plastic waste by incinerating it – but that's complicated by concerns about health and emissions.'

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Plastic items tend to be used for very short periods before being discarded. Waste plastic is sent largely to landfill; much of it just litters the wider environment, including the oceans.

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Dr Gaia commented: 'People need to realise that a plastic bottle could be recycled 20 times. Currently, poor design limits us. The whole point of recycling is keeping material in use for ever if you can. Actually 90 per cent of the material that does get recycled only gets recycled once.'

In the meantime, the waste mounts up. Recycling rates are increasing, and there are new biodegradable alternatives, but manufacturing plastic is so cheap that there is little incentive for change. Each year eight million tonnes of plastic end up in the oceans, with clear evidence that some gets into the food chains because marine creatures ingest small fragments of micro-plastics.

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Dr Gaia explains: 'We're facing a tsunami of plastic waste. The global waste industry needs to get its act together. We need a radical shift. On current trends, it will take until 2060 before more plastic gets recycled than landfilled and lost to the environment. We can't wait that long.'

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