

the mixture mentioned earlier, mushrooms generally grow much faster so that farmers can harvest mushrooms sooner, which enables them to make money faster.” 其中 make money faster 替换了选项 C 中的 make quick profits。因此答案为 C。

Question 29 答案 E

听前预测：定位词 oyster and straw mushrooms。

题目解析：定位词 oyster and straw mushrooms 原词重现于女生的提问中，随后男生进行了详细阐述。接着听到：“These mushrooms provide sufficient nutritional values including minerals and high-quality protein which are essential to people’s level of fitness.” 其中 nutritional values、minerals and high-quality protein 和 essential to people’s level of fitness 与选项 E 中的 good for human health 对应。因此答案为 E。

Question 30 答案 B

听前预测：定位词 cows。

题目解析：定位词 cows 同样原词重现，答案句随即出现：“Then the waste from cows is treated to produce methane gas, which can be used as fuel for cooking, lighting or powering an engine.” 其中 methane gas 意为“沼气”，并提及这是一种燃料，它是选项 B 中的 alternative energy 的具体展开替换。虽然干扰选项 A 中的 global warming 在后一句中被提及，但录音中并未明确表示水葫芦可用于减少全球变暖，所以可排除。因此答案为 B。

PART 4

听力原文

Today’s lecture is the first of a series of lectures on nanotechnology. Nanotechnology, sometimes shortened to ‘nanotech’, refers to the manipulation of matter on an atomic and molecular level. It’s a science, engineering and technology conducted at the nanoscale, which is about 1 to 100 nanometres. It is the study and application of extremely small things and can be used across all the other science fields. Just how small is that? A nanometre is one-billionth of a metre.

The idea of nanoscale research first started from a physicist called Richard Feynman in 1959. He envisioned a process in which scientists would be able to manipulate and control individual atoms and molecules. In fact, it wasn’t until 1981, with the invention of a special kind of microscope, that modern

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nanotechnology truly began.

Even though nanotechnology has created many new materials and devices with a vast range of applications, there is always concern over these unnatural products. Many people are worried that they may pose a threat to the environment, health and safety, also known as EHS. In order to better understand and evaluate the potential harm, risk assessment has been introduced. There are also ongoing international collaborations on nanoEHS research and related policy issues.

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Despite the concern, nanotechnology has benefited society in unexpected ways. In the food processing industry, nanotechnology is leveraged against iron deficiency which triggers anaemia. For example, by reducing the particle size in potatoes, this new technology improves the bioavailability of this nutritional ingredient without the tendency to cause colour and odour changes. In terms of packaging, nanomaterials are more economical and are used in all sorts of products, chocolate in particular. Nanotechnology can also enhance the flavour of food. On a domestic scale, we expect more ‘smart’ furniture, which is made of shape memory alloys, to be manufactured.

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But nanotechnology has much wider application than this and could also help develop sustainable agriculture. It offers great potential to strengthen the effect of fertilisers, thereby minimising the environmental impact and boosting the productivity of plants in the soil.

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In the area of medicine, bioengineers have developed simple and inexpensive nanoscale delivery vehicles. Conductors like carbon nanotubes have been invented with varying structures. Such nanotubes have become increasingly attractive to researchers because of their ability to efficiently deliver drugs into veins. This means that higher doses of drugs loaded on them can be transported from the administration sites to the effects-related sites, such as cancer focuses, thus decreasing toxic side effects while increasing the treatment effects.

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The research team has also developed a widely accepted material that can be used to coat different surfaces, including wood, plastic and glass. It is mainly comprised of silver. Such nanoparticles can eventually kill some microbes due to the antiseptic properties. The whole process is simple, easy to apply, and more importantly, harmless to the environment.

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Surprisingly, nanotechnology has major implications for our health as well. By changing the metabolic rate through a particular type of protein, obese patients are able to burn calories faster even under a high-calorie diet. Therefore, treatment programs are provided for patients to lose weight by disposing of excess fat in a relatively safer manner. The finding may help explain why overweight people struggle to lose weight. Their stored fat is actively fighting against their efforts to burn it off at the molecular level. Further research is mainly focused on the clinical and commercial development of therapies for obesity, diabetes and other associated conditions such as heart disease.

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In terms of cosmetics, the applications of nanotechnology and nanomaterials can be found in many products. There are two main uses for nanotechnology in cosmetics. The first one is that nanoparticles are commonly used as UV filters in anti-aging suncare products to avoid skin damage caused by the sun. In addition, nanotechnology has played an important role in delivering active ingredients to the skin. The mechanism proves to improve the bioavailability of actives and enhance skin hydration.

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The wide variety of nanotechnology applications leave no doubt that this field will only continue to get more exciting, and I look forward to seeing these developments further branch out.



听力场景

- **谈话场景：**讲座场景
- **人物关系：**主讲人独白
- **谈话话题：**纳米技术及其应用