TOEFL Listening

Academic Talks

Test #1

In this task, you will listen to an academic talk. You will then read four questions and choose the correct answer.

Talk 1: History

What is the main topic of the talk?

- ◯ The biography of Christopher Columbus
- ◯ The consequences of European colonization for indigenous peoples
- ◯ Agricultural developments in Europe and the Americas after the 15th century
- ◯ The broad exchange of goods and disease between the Americas and the Old World

Why does the speaker mention the potato?

- ◯ To explain why Ireland experienced a famine
- ◯ To illustrate the significant impact a single crop can have
- ◯ To compare European and American farming methods
- ◯ To highlight the importance of caloric intake in history

According to the speaker, how did the horse affect Native American peoples?

- ◯ It introduced new farming techniques.
- ◯ It spread disease among indigenous communities.
- ◯ It helped establish trade routes across the Americas.
- ◯ It changed hunting and warfare on the Great Plains.

What does the speaker imply about disease in the Columbian Exchange?

- ◯ It affected Europeans and Native Americans equally.
- ◯ It was the most destructive element of the exchange for indigenous peoples.
- ◯ Its effects were difficult to measure.
- ◯ It was brought to Europe from the Americas.

Talk 2: Biology

What is the talk mainly about?

- ◯ How natural systems inspire human design and engineering
- ◯ How industries use the environment to create innovation
- ◯ The environmental impact of modern architecture
- ◯ The similarities in how animals and industries adapt to extreme environments

Why does the speaker mention George de Mestral?

- ◯ To explain the history of synthetic materials
- ◯ To provide an early example of biomimicry in everyday products
- ◯ To illustrate the importance of microscopic observation
- ◯ To discuss the commercial success of a new technology

According to the speaker, what problem did the kingfisher-inspired design solve?

- ◯ Excessive energy consumption on rail lines
- ◯ Structural instability in the train's body
- ◯ A loud noise produced when trains came out of tunnels
- ◯ High air resistance during high-speed travel

What can be inferred about biomimicry's future relevance?

- ◯ It is likely to become more important as A.I. advances.
- ◯ It is primarily useful for architectural projects.
- ◯ It may offer solutions to pressing environmental challenges.
- ◯ It has already solved most major engineering problems.

Talk 1: The Columbian Exchange

Listen to a talk in a history class.

The Columbian Exchange refers to the widespread transfer of plants, animals, culture, human populations, technology, and diseases between the Americas and the Old World — Europe, Africa, and Asia — following Christopher Columbus's arrival in the Americas in 1492. The term was coined by historian Alfred Crosby in the 1970s, and it fundamentally changed life on both sides of the Atlantic.

From the Americas to Europe, the exchange introduced crops that would transform diets around the world. Potatoes, tomatoes, maize, cacao, and tobacco were among the most significant. The potato, for example, became a staple crop in Europe, particularly in Ireland, where populations grew rapidly because of its high caloric yield. Tomatoes, now central to Italian and Spanish cuisine, were entirely absent from Europe before the late 15th century.

The exchange also moved in the other direction. Europeans brought wheat, rice, horses, cattle, and pigs to the Americas. The introduction of the horse dramatically changed the lives of many Native American peoples, particularly on the Great Plains, where it transformed hunting and warfare.

However, the most devastating element of the Columbian Exchange was disease. Indigenous populations in the Americas had no immunity to European illnesses such as smallpox, measles, and influenza. Epidemics swept through Native communities with catastrophic results, killing an estimated 50 to 90 percent of the indigenous population in some regions. This demographic collapse had profound social, political, and economic consequences that shaped the Americas for centuries.

Talk 2: Biomimicry

Listen to a talk in a biology class.

Nature has had billions of years to solve problems. Biomimicry is the practice of looking to the natural world for design inspiration — studying biological systems and processes and then applying those principles to human engineering and technology. The word itself comes from the Greek bios, meaning life, and mimesis, meaning imitation.

One of the most well-known examples of biomimicry is Velcro. The inventor, George de Mestral, noticed how burr seeds stuck to his dog's fur after a walk. Under a microscope, he observed tiny hooks that caught on loops in the fur. He replicated this mechanism using synthetic materials, and Velcro was born.

Another compelling example comes from the Japanese bullet train. Engineers noticed that the train created a loud sonic boom each time it exited a tunnel, due to differences in air pressure. The lead engineer, who was also a birdwatcher, proposed reshaping the front of the train after the beak of the kingfisher bird, which dives from air into water with minimal splash because of its streamlined beak. The redesigned train not only eliminated the noise problem but also became 15 percent more energy efficient.

Biomimicry is also being applied in architecture and materials science. The Eastgate Centre in Zimbabwe, for example, was designed to mimic the ventilation system of termite mounds, which maintain a stable internal temperature despite extreme outside heat. The building uses dramatically less energy for cooling than conventional structures.

As climate change and resource scarcity become more pressing, biomimicry offers a promising approach — one that works with nature rather than against it.

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