TOEFL iBT® Online Prep Course | Activity 2 | Reading

Reading > Lesson 8: Completing Summaries/Charts > Exercise 8.1

FOCUS: Recognizing the most important topics and ideas of paragraphs and answering complete-the-summary questions.

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DIRECTIONS: Read each passage. As you are reading, take brief notes on the main idea of each paragraph. At the end of the passage, you will find the introductory sentence for a brief summary of the passage. Complete the summary by dragging **three** of the answer choices that express the most important ideas of the passage next to the bullet points in the box. Three answer choices will not be used. *On an actual test, these questions would be worth 2 points each.*

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The Theory of Island Biogeography

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Biogeographers--scientists who study the life present in specific geographic regions--are intrigued by the life forms and the diversity of species that exist and thrive on islands. Biogeographers ask why land plants and animals live on an island surrounded by a wide expanse of sea and how these flora and fauna become established and flourish there. Islands are isolated landmasses. The ocean environments that surround islands are not inhabited by the same life forms. Also, islands are often distant from larger landmasses with thriving flora and fauna. The farther an island is from the nearest landmasses, the more difficult it is for species to migrate to the island and to establish a viable population there. Moreover, volcanic islands with thriving life are geologically recent terrains and began barren of any life. The biogeographer knows that the seeds of some plants are carried by the wind, by birds, or by currents to islands, and **germinate** to develop the vegetative environments on these isolated landmasses. Many other plant and animal species living on islands were introduced to these remote locations by humans as they migrated to these islands. But why did the species adapt and survive?

The theory of island biogeography offers an explanation for how natural factors interact to affect successful colonization or extinction of species that initially come to live on an island. The theory considers the degree of isolation of the island (the distance from a mainland source of migrating species), the size of the island, and the number of species living on an island. Generally, the diversity of life forms on islands is low compared to mainland locations with a similar climate and other environmental characteristics. Low diversity of species typically also means that the flora and fauna populations of that place exist in an environmentally sensitive location. Many extinctions have occurred on islands because of the introduction of some factor that made the habitat nonviable for that species to survive.

Several major factors affect the species diversity on islands (as long as other environmental conditions such as climate Several major factors affect the species diversity on islands (as long as other environmental conditions such as climate are comparable). For example, the farther an island is from the area from which species must migrate, the lower the species diversity. Islands nearer to large landmasses tend to have higher diversity than those that are more distant. Also, the larger the island, the greater the species diversity. This is partly because larger islands tend to offer a wider variety of environments to colonizing organisms than smaller islands do. Larger islands also offer more space for species to occupy. In addition, the species diversity of an island results from an equilibrium between the rates of extinction of species on the island and the colonization of species. If the islands' extinction rate is higher, only a few hardy species will live there; if the extinction rate is lower compared to the colonization rate, then more species will thrive, and the diversity will be higher.

The theory of island biogeography has also been useful in understanding the ecology and species of many other kinds of isolated environments, such as high mountain areas that stand, much like islands, above surrounding deserts. In those regions, plants and animals adapted to cool wet environments live in isolation from similar populations on nearby mountains, separated by inhospitable arid environments.

1 The theory of island biogeography explains how an isolated environment can nurture and sustain diverse life forms.

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The theory of island biogeography can also help explain desert environments, which are barren and isolated.

An island's size influences the survivability and variety of the species that inhabit it.

Understanding how an island developed can help biogeographers predict which species are threatened with extinction.

The theory of island biogeography may be extended to a diverse array of environments.

The remoteness of the island and the variety of life forms are also key components.

Humans are responsible for the introduction of many plant and animal species to remote island environments.