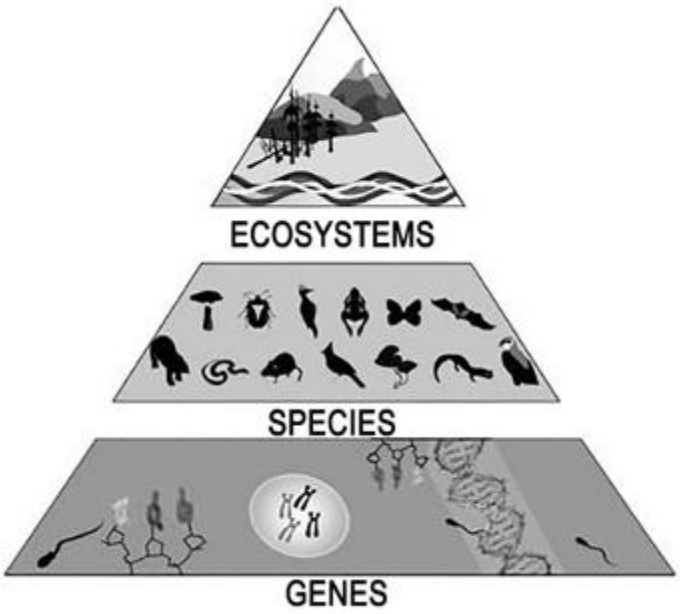
Criterion assessed: Criterion D - How do living things work

Global context: Globalization and Sustainability

Key concept: Relationship

Related concepts: Form, Function



Biodiversity describes the **range of living organisms** in an ecosystem, including plants, animals, and microorganisms, and the relationships between them. These relationships help ecosystems stay balanced and support life on Earth. Greater biodiversity usually means ecosystems are more stable and can better cope with changes such as droughts, diseases, or climate change.

Biodiversity provides many benefits to humans. Diverse ecosystems supply food, clean water, oxygen, and raw materials. Many medicines are developed from natural sources, and farming systems that use a variety of crops are less vulnerable to pests and diseases. For example, planting different types of crops can reduce the spread of disease and protect food supplies.

Biodiversity also has important **social and economic value**. Communities around the world depend on forests, oceans, and wildlife for jobs, culture, and traditions. Ecotourism in biodiverse areas creates employment, while healthy ecosystems support fishing and agriculture industries. When biodiversity is high, these systems are more productive and sustainable.

However, human actions such as deforestation, pollution, overfishing, and urban development reduce biodiversity. Protecting biodiversity can also create challenges. Conservation areas may limit land available for farming or housing, and managing

ecosystems requires money, technology, and long-term planning. For example, restricting fishing to protect marine species can reduce short-term income for fishing communities.

Understanding biodiversity helps scientists and governments make informed decisions that balance environmental protection with human needs.

Assessment Questions – Criterion D

Q1.1 – Criterion D

Explain how knowledge of biodiversity can be used to benefit people and the environment in everyday life.

Q1.2 – Criterion D

Analyse the possible social, economic, or environmental challenges that can occur when humans try to protect biodiversity.

Q1.3 – Criterion D

Using information from the text and diagram, write a conclusion explaining why understanding biodiversity is important for the future. Include your own opinion.

What a good answer looks like:

Q1.1 – Criterion D

Explain how knowledge of biodiversity can be used to benefit people and the environment in everyday life.

WAGOLL Answer (7–8 level):
Knowledge of biodiversity benefits both people and the environment by helping ecosystems remain balanced and productive. Diverse ecosystems provide essential resources such as food, clean water, oxygen, and raw materials that humans rely on every day. For example, farming systems that use a variety of crops are less affected by pests and diseases, which helps protect food supplies and reduce crop failure. Biodiversity also supports the environment by making ecosystems more stable and better able to cope with changes such as droughts and climate change. This shows that understanding biodiversity allows humans to use natural resources more sustainably while protecting ecosystem health.

1–2	3–4	5–6	7–8
States a basic benefit of biodiversity with little or no explanation.	**Explains one benefit for people or the environment.**	**Explains two benefits with some detail and understanding.**	**Clearly explains multiple benefits for people and the environment, using an example from the text.**

Q1.2 – Criterion D

Analyse the possible social, economic, or environmental challenges that can occur when humans try to protect biodiversity.

WAGOLL Answer (7–8 level):
Protecting biodiversity can create several challenges for humans. Socially and economically, conservation areas may limit land available for farming or housing, which can affect communities that depend on these activities. For example, restricting fishing to protect marine species can reduce short-term income for fishing communities. Economically, managing ecosystems requires money, technology, and long-term planning, which can be difficult for governments and organisations. Environmentally, while protection aims to improve ecosystems, poor management could lead to conflicts between conservation goals and human needs. These challenges show that biodiversity

protection requires careful planning to balance environmental benefits with social and economic impacts.

1–2	3–4	5–6	7–8
Mentions a challenge related to biodiversity protection with minimal explanation.	Explains one social, economic, or environmental challenge.	Explains two challenges with some analysis and detail.	Analyses social, economic, or environmental challenges clearly, using examples from the text.

Q1.3 – Criterion D

Using information from the text and diagram, write a conclusion explaining why understanding biodiversity is important for the future. Include your own opinion.

WAGOLL Answer (7–8 level):
In conclusion, understanding biodiversity is important for the future because it supports stable ecosystems that humans depend on for food, water, and economic activities. Biodiversity helps ecosystems cope with environmental changes and supports industries such as agriculture, fishing, and ecotourism. Although protecting biodiversity can create challenges such as reduced income or land use limitations, these difficulties are often short-term compared to the long-term benefits of healthy ecosystems. In my opinion, understanding biodiversity is essential because it helps humans make informed decisions that protect the environment while supporting sustainable development for future generations.

1–2	3–4	5–6	7–8
States a simple conclusion.	Gives a conclusion with limited explanation.	Summarises key ideas from the text and includes a personal opinion.	Analyses ideas from the text and diagram and gives a clear, well-justified personal opinion.