## Feedback Lesson

Answer the questions below:

1. State the definition of biodiversity.
   The variety of different species in an ecosystem.
2. State the approximate biomass efficiency between trophic levels.
   10 %
3. State two consequences of global warming.
   Melting ice caps, rising sea levels, flooding, extreme weather patterns, loss of habitats, change to migration patterns
4. Explain why energy is lost between trophic levels in a food chain.
   Some biomass is lost as waste (urine, faeces, sweat etc) and some is used for life processes, such as movement, growth and thermoregulation.
5. Identify a way individuals can improve food security.
   Reduce their meat intake/eat more food from producers, eat seasonally and locally.
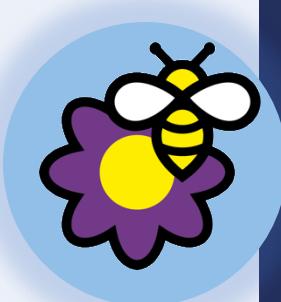
Feedback Lesson

B3.2.10
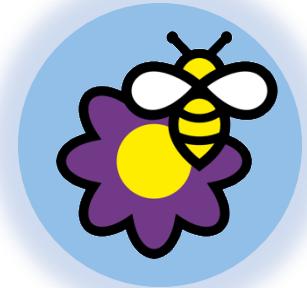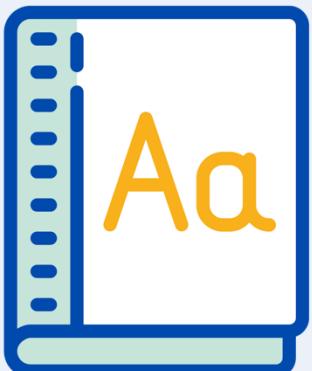
Science
Mastery

Following this lesson, students will be able to:

- State…

- Describe…

- Explain…

Key Words:

food chain	efficiency	producer
biodiversity	biomass	ecosystem

This is the fix-it portion of the lesson

The **fix-it** is an opportunity to respond to gaps in knowledge, especially those identified by the previous lesson's exit ticket.

- The teacher should customise this slide as needed, to facilitate
  - **reteach**, **explanation, demonstration** or **modelling** of ideas and concepts that students have not yet grasped or have misunderstood.
  - **practise** answering specific questions or of key skills.
  - **redrafting** or **improving** previous work.

Fix-it

The Big Idea: Organisms are interdependent

Science Mastery

Human Interaction

What effects are humans having on the environment? How does this affect different ecosystems? What can humans do to reduce their impact?

Living things are interdependent, which means that they interact with each other for survival. This includes feeding relationships, shown in food chains and webs, and if one population is affected it can have an effect on the rest of the ecosystem. Human activities are having an impact on biodiversity on Earth, putting ecosystems at risk, but there are actions that can be taken to reduce these effects.

This is the **second** unit we are studying as part of the big idea: **Organisms are interdependent.**

In this unit we will learn about biodiversity and why it is so important for the survival of organisms, including humans. We will learn about the variety of ways that the global human population is affecting the environment; including how different types of pollution and the destruction of habitats is reducing biodiversity. We will also learn different approaches being used across the globe to prevent this decrease in biodiversity and consider how indicator species can be used to monitor environmental pollution.

Answers

Question	Answer
1	C
2	C
3	A
4	B
5	A
6	B
7	A

8	C
9	C
10	B
11	B
12	A
13	A
14	C
15	B

Answers

1. A quadrat provides a known area in which to count the number of individual organisms.

2. Any one from:

Humans reduce the amount of land available for biodiversity by:
- Building
- Deforestation
- Quarrying
- Farming
- Waste disposal
- Growing biofuels

Destruction of peat bog habitats to extract the peat for compost, which is used for farming and gardening.

Introducing non-indigenous species that can reduce biodiversity if the species out-competes or kills indigenous species.

Answers

3. Data must be measured regularly because it provides <u>evidence</u> for answering the <u>scientific question</u> about how global atmospheric temperature is changing.

Answers

4.
A meat-alternative diet is more sustainable that a meat-based diet because the carbon foot print of tempeh, tofu and Quorn is less than beef. For example, the carbon footprint of tempeh and tofu is 0.7 kg CO2 / year / kg, whereas beef is 32 kg CO2 / year / kg. <u>This means that</u> these meat-alternatives contribute less to global warming compared to meat.

Tofu and Quorn have land use of less than 5 m2 / kg whereas beef uses 325 m2 / kg. The greater land use of beef reduces biodiversity <u>because</u> land is turned into farmland for cows, rather than a habitat for indigenous species.

To 'explain' your answer should:

- *Begin with a **scientific statement**.*

*Use '**this means that**', '**because**' or '**so**' to link your statement to the question. and then they should peer assess each other's answers using this.*

Answer the questions below.

1. Biodiversity is…
- ❑ A. The number of organisms in an ecosystem
- ✔ B. The variety of different species in an ecosystem
- ❑ C. Where each species is not dependent on just one other species

2. Which of these would always have a negative effect on biodiversity?
- ✔ A. Deforestation
- ❑ B. Breeding programmes
- ❑ C. Introducing new species into an ecosystem

3. Which best explains why all humans should be concerned with sustainability?
- ❑ A. Because humans are at the top of the food chain, so survival is essential
- ✔ B. So that Earth's natural resources are not depleted
- ❑ C. So that all humans can have access to healthy nutritious food

Lesson B3.2.10	
What was good about this lesson?	What can we do to improve this lesson?

Send us your feedback by clicking this link. Thank you!

Feedback